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Supreme Court, U.S.
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No.

IN THE SUPREME COURT

OF THE

UNITED STATES

OCTOBER TERM, 1987

SCHUBERT & SALZER
MASCHINENFABRIK AKTIENGESELLSCHAFT
and
SCHUBERT & SALZER MACHINE WORKS, INC.,
Petitioners,

v.

SPINDELFABRIK SUESSEN-SCHURR,
STAHLECKER & GRILL GmbH,
HANS STAHLECKER AND FRITZ STAHLECKER,
Respondents

APPENDIX

PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

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APPENDIX

ITEM 1

Appeals Court Opinion, 829 F.2d 1025 (Fed. Cir. 1987)

APPENDIX, ITEM 1

(Appeals Court Opinion)
[829 F.2d 1075]

SPINDELFABRIK SUESSEN-SCHURR
STAHLECKER & GRILL GmbH, et al.,
Appellees,

v.

SCHUBERT & SALZER
MASCHINENFABRIK AKTIENGESELLSCHAFT
and Schubert & Salzer Machine
Works, Inc., Appellants.

Appeal Nos. 86-561, 86-682.

United States Court of Appeals,
Federal Circuit

Sept. 9, 1987

[829 F.2d 1076]

Before BALDWIN and SKELTON, Senior Circuit Judges, and ARCHER, Circuit Judge.

BALDWIN, Senior Circuit Judge.

This is a consolidation of appeals from two judgments of the United States District Court for the District of South Carolina (district court) (1) declaring U.S. Patent

No. 4,059,946 (the '946 patent) and U.S. Patent No. 4,175,370 (the '370 patent) valid and infringed and awarding increased damages and attorney fees based on a finding of willful infringement of the '946 patent and (2) granting a motion to enjoin subsequent infringement by a redesign of the accused device. Appeal was taken on four questions related to the district court's infringement determinations. We affirm the district court's decision with respect to each of the four questions on infringement.

Background

In 1983, the three appellees in this appeal, Hans Stahlecker, Fritz Stahlecker, and Spindelfabrik Suessen-Schurr, Stahlecker and Grill GmbH (collectively [829 F.2d 1077] and individually

"Suessen"), brought an action in the district court for infringement of two patents[1] relating to improvements in the technology of open-end spinning devices, the '946 patent and the '370 patent. It was charged that an open-end spinning device, the Spincomat, produced and marketed by appellants, Schubert and Salzer Maschinenfabrik Aktiengesellschaft and Schubert and Salzer Machine Works, Inc. (collectively and individually

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1. Hans Stahlecker and Fritz Stahlecker are individuals who jointly owned the patents. Spindelfabrik Suessen-Schurr, Stahlecker and Grill, GmbH, a West German corporation, is an exclusive Licensee of Hans and Fritz Stahlecker. [N. 1 at 829 F.2d 1076]

"Schubert"),[2] infringes claim 18 of the '946 patent and infringes claims 1-7, 9-13, and 17-20 of the '370 patent. The district court rejected the Schubert defenses of invalidity, unenforceability, non-infringement, and implied license, and on September 4, 1985, issued its "Order and Opinion Including Findings of Fact and Conclusions of Law" declaring the '946 and '370 patents valid and infringed. The district court awarded increased damages based on willful and deliberate infringement and attorney fees under 35 U.S.C. § 285 (1982) for infringement attributable to the '946 patent.

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2. Appellant Schubert and Salzer Maschinenfabrik Aktiengesellschaft is a West German corporation. Appellant Schubert and Salzer Machine Works, Inc., is a United states subsidiary of Schubert and Salzer Maschinenfabrik Aktiengesellschaft.
[N. 2, 3, 4, at 829 F.2d 1077]

Six weeks later, on October 28, 1985, the district court issued an order declaring that, despite Schubert's efforts to produce a non-infringing modification, the redesigned version of the Spincomat also infringes the '946 patent.

A. Standard of Review

We review the four questions raised on appeal, each related to the district court's infringement determinations: (1) whether the district court properly rejected an implied license defense to infringement of the '946 patent; (2) whether there is clear error in the finding of infringement of the '946 patent by the redesigned Spincomat; (3) whether there is clear error in the finding of infringement of the '370 patent by the Spincomat; and (4) whether there is error or an abuse of

discretion in the award of increased damages and attorney fees.[3]

In conducting our review, we have the benefit of the district court's order. Its factual findings are to be reversed only if clearly erroneous. Fed. R. Civ. P. 52(a). A finding is clearly erroneous when, although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed. Anderson v. City of Bessemer City, 470 U.S. 564, 573, 105 S.Ct. 1504, 1511, 84 L. Ed. 2d 518 (1985); United States v. United States Gypsum Co., 333 U.S. 364,

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3. The district court's determinations on validity, enforceability and certain assertions of non-infringement are not contested on appeal. Accordingly, we have not reviewed the district court's findings with respect to those issues.
[N. 3 & 4 at 829 F.2d 1077]

395, 68 S.Ct. 525, 542, 92 L. Ed. 746 (1948).[4] "This standard plainly does not entitle a reviewing court to reverse the finding of the trier of fact simply because it is convinced that it would have decided the case differently." Anderson, 470 U.S. at 574, 105 S.Ct. at 1512.

Where the issue before us is a question of law, our review is based on whether the district court erred as matter of law. Bandag, Inc. v. Gerrard Tire Co., 704 F.2d 1578, 217 USPQ 977 (Fed. Cir. 1983); Deere & Co. v. Int'l Harvester Co., 710 F.2d 1551, 218 USPQ 481 (Fed. Cir. 1983).

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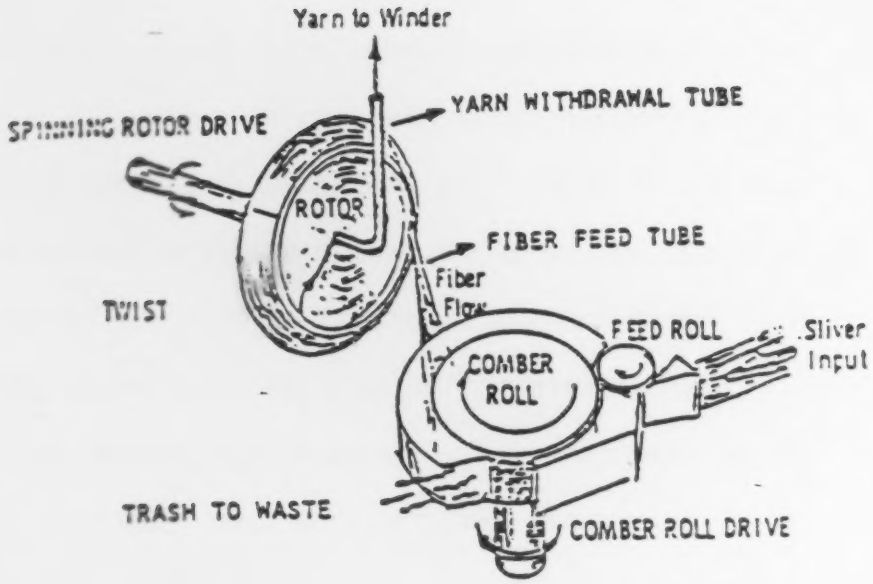
4. Notwithstanding Schubert's attack on the district court for its verbatim adoption of Suessen's findings, our review of those findings is governed by the clearly erroneous standard. Pentec, Inc. v. Graphic Controls Corp., 776 F.2d 309, 313, 227 USPQ 776, 768 (Fed. Cir. 1985).

B. The Technology

The '946 and '370 patents are directed to the automation of open-end spinning (OES), a technology whereby uniformly twisted yarn is produced from irregular strands of fiber. The findings of the district court regarding OES technology and operation of an OES device are not contested. [829 F.2d 1078]



Above is a diagram of the principal elements of an OES device. Open-end spinning is performed on such a device in a sequence of steps. First, a mass of irregular strands of fiber is fed into the device on a feed roll. The feed roll, in turn, feeds fiber into a high speed, rotating, toothed comber where the fibers are separated into individual strands. The

individual strands are then vacuum drawn into a rotor which is cup-shaped with an annular groove. A twist is imparted to the strands while they are under the centrifugal force of the high speed rotor. Once twisted, the strands become the final product, spun yarn. The yarn is pulled from the rotor through a withdrawal sue and wound onto a spool.

The '370 and '946 patents relate to a portion of the OES operation denoted as the "piecing point." As the yarn is withdrawn from the rotor, pulled by a pair of "take off" rolls and wound onto a spool, it is subject to breakage. Breakage inherently results in discontinuity in the operation, requiring reconnection and restarting of the operation. Automation of an OES device involves the implementation of a sequence of automatic steps to restart the device by cleaning out broken fiber, feeding new

fiber into the rotor and reconnecting the newly spun yarn. The points of reconnection after breakage are denoted as "piecing points." Both of the patents in issue disclose improvements which avoid time lapse for reconnection and minimize nonuniformities in the yarn at the piecing points.

I. Infringement of the '946 Patent

The '946 patent, entitled "Method and Apparatus for Start Spinning a Thread on Open-End Spinning Units" issued on November 29, 1977 to Dieter Boettcher, Heinze Schulz and Fritz Stahlecker. Hans and Fritz Stahlecker were subsequently assigned the patent, and they licensed Suessen as an exclusive Licensee.

The '946 patent addresses the absence in the prior art of a method and apparatus

for providing precise control of fiber feed during piecing. Claim 18[5] recites an apparat-

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5. Claim 18 is dependent upon claim 17. Claims 17 and 18 read as follows:

> 17. Apparatus for thread piecing in an open-end spinning assembly comprising:
> opening means for opening sliver being supplied to a spinning rotor of said spinning assembly, feeding means for feeding sliver to said fiber opening means,
> piecing means including means for introducing a thread end back into said spinning rotor to be pieced together with a fiber ring formed in said spinning rotor,
> rotor control means for moving said spinning rotor from a stop condition toward an operating spinning speed to accommodate piecing by said piecing means,
> and fiber supply preparing means for preparing said spinning assembly for a piecing operation prior to movement of said spinning rotor from its stopped position, said fiber supply preparing means including means for starting and operating said feeding means for a period of time and then stopping said feeding means, said starting and stopping being accompanied by a continuously operating opening means, whereby uniform fiber tufts are arranged at [N.5 at 829 F.2d 1078-79]

[829 F.2d 1079]

us for performing a controlled sequence of steps for automated restart of the spinning operation, including preparation of the rotor.

The district court found that claim 18 of the '946 patent reads directly on Schubert's OES device, the Spincomat.[6] In making this finding, the court identified

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said sliver feeding means to accommodate said piecing operation to be subsequently performed.

18. Apparatus according to claim 17, further comprising means for supplying a vacuum to said spinning rotor to remove any fiber supplied during said preparation of said spinning assembly by said preparing means.

6. In addition to rejecting the implied license defense, the district court rejected Schubert's argument that the absence in their device of a "rotor control means" and "piecing on the rise" avoided infringement. Only the implied license defense has been appealed.
[N. 6 & 7 at 829 F.2d 1079]

an aspect of the Spincomat which corresponds to each of the elements recited in claim 18. Literal reading of the '946 patent upon Schubert's Spincomat is not contested in this appeal.

A. The Implied License Defense

Schubert argues that it has an implied license under the '946 patent. Its argument involves two agreements.

The first was a license agreement entered in 1982 between Schubert and Murata Machinery, Ltd. (Murata). That agreement, entered into before the filing of this suit in 1988, in pertinent part reads:

> Murata hereby grants to Licensee [Schubert] a non-exclusive worldwide license under the Patents to make, use and sell the patented device only as part of the open end spinning machines of the License. The License hereby granted is a limited license, and Murata reserves all rights not expressly granted.

The "Patents" were defined by the agreement as those listed in an Exhibit. They include U.S. Patent No. 4,022,011 ('011 patent) and other patents belonging to Murata in the name of Hironorai Hirai. Schubert asserts that, notwithstanding any infringement of '946, its accused infringement is merely a practicing of the '011 invention, which it is licensed to do under the 1982 agreement.

The second agreement, entered in 1984 after this lawsuit began, involved Suessen's purchase of the '011 and other Hirai patents from Murata. The agreement reads, in pertinent part:

> Suessen has been advised by Murata that a non-exclusive license of the patents and patent applications mentioned under 1. above had been granted by Murata to Messrs. Schubert & Salzer AG, Ingolstadt, F.R. Germany (hereinafter called the Licensee). Suessen hereby agrees to purchase the patents and patent applications mentioned under 1. above together with the License Agreement as of 23rd/28th July, 1982,

> with the said Licensee and agrees that you and your business/license concerns will maintain the licensed rights of the Licensee under the License Agreement as stipulated during the life of the patents and patent applications mentioned under 1. above.[7]

Schubert asserts that, per the 1984 agreement, Suessen "stepped in the shoes of Murata" and by so "stepping," Suessen cannot--just as Murata cannot--sue under the '946 or any other patent for infringement based on practicing the '011 invention. To allow such a suit, Schubert argues, would unfairly take away what it [829 F.2d 1080] paid for in 1982. Schubert labels its argument one of "legal estoppel."

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7. Another part of the agreement refers to "the assignment of the [1982] License Agreement." The 1982 license, however, states that it is "nontransferable, nonassignable." Our disposition of this case assumes, arguendo, that there was a transfer of the 1982 license agreement which did not violate the terms of that agreement.

[N. 7 at 829 F.2d 1079]

The district court concluded that Schubert in 1982 could not have acquired from Murata any rights greater than those which Murata had the right to grant and that Murata had nothing more than a right to exclude others from using the Hirai patents. It then concluded, regarding the 1984 agreement:

> There is nothing whatsoever in this agreement about the '946 patent, any patent corresponding to the '946 patent, or any technology specifically covered by those patents. Nor is there any language in the agreement that can be construed as a grant by Suessen of any right to practice any particular technology which might be covered by other Suessen patent rights. All this agreement does is to convey to Suessen the entire right, title and interest in all of the Hirai patents, with the express reservation to the effect that a nonexclusive license under these Hirai patents had already been granted by Murata to [Schubert], and with the express acknowledgments by Suessen that it would continue to recognize the existence of that license under the Hirai patents. While this later acknowledgment might seem redundant from the viewpoint of the law in this country (whereby a patent assignee under normal circumstances would be

> bound as a matter of law by its assignor's prior grant to a license to a third party), it served a clear purpose under German law since, as referred to above [pp. 23-24, supra], the German High Court had recently handed down a ruling, the effect of which was that an existing nonexclusive right under a German patent could be defeated by an assignment of the patent by the owner to a third party.

The net effect of the 1984 agreement, said the district court, was that Schubert is "the beneficiary of a guarantee by Suessen that the nonexclusive rights under the Hirai patents granted to [Schubert] by Murata in 1982 could not be taken away by the new patent owner, Suessen" and that the enforcement of the '946 patent against Schubert in this litigation "in no way affects that guarantee."

> The district court then added: Beyond these two agreements, defendants offered no further evidence in support of the existence of any implied licensee--not even the testimony of defendants to the effect that they ever even thought they might have an implied license or that they were led to take or ever took any action upon reliance

that they had rights under the '946 patents.

In the latter regard, the district court cited Bandag, Inc. v. Al Bolser's Tire Stores, Inc., 750 F.2d 903, 925, 223 USPQ 982, 998 (Fed. Cir. 1984), and Stickle v. Heublein, Inc., 716 F.2d 1550, 1559, 219 USPQ 377, 383 (Fed. Cir. 1983), where this court discussed implied license in the context of equitable estoppel. The district court concluded that equitable estoppel could not be a basis for implied license in this case.

Discussion

The doctrines of legal estoppel and equitable estoppel have been applied by courts to imply a license. See, e.g., AMP, Inc. v. United States, 389 F.2d 448, 452, 182 Ct.Cl. 86, 156 USPQ 647, 649-50 (1968), cert. denied, 391 U.S. 964, 88 S.Ct. 2033,

20 L.Ed.2d 878 157 USPQ 720 (1968). Under the facts of this case, there can be no implied license under an equitable estoppel theory. Indeed, that theory is not even argued by Schubert. Instead, Schubert asserts an implied license based on its theory of legal estoppel. Though we recognize that theory in appropriate circumstances, it does not work for Schubert here.

Legal estoppel "is merely shorthand for saying that a grantor of a property right or interest cannot derogate from the right granted by his own subsequent act." AMP v. United States, 389 F.2d at 453, 156 USPQ at 650-51. The rationale for that is to estop the grantor from taking back that for which he received consideration, 389 F.2d at 452, 156 USPQ at 649-50. Here, however, we have a suit by a third party, Suessen, under a patent owned by Suessen. The license by the grantor, Murata, did not purport to,

and indeed could not, protect [829 F.2d 1081] Schubert from a suit by Suessen under '946. Hence, Suessen, by filing in 1983 and now maintaining its suit under '946, does not derogate from the right given by Murata in the 1982 license agreement.

Schubert nevertheless urges this three prong argument: (1) "legal estoppel" would prevent Murata from suing under the '946 patent if it were to acquire it; (2) Suessen "stepped into" Murata's shoes in 1984 when Sussen acquired the Hirai patents and committed to maintain Schubert's licensed rights; and hence, (3) just as Murata could not, Suessen cannot sue under the '96 patent. We reject that argument.

As a threshold matter, a patent license agreement is in essence nothing more than a promise by the licensor not to sue the licensee. See, e.g., United States v.

Studiengesellschaft Kohle, m.b.H., 670 F.2d 1122, 1127, 212 USPQ 889, 894 (D.C. Cir. 1981). Even if couched in terms of "[l]icensee is given the right to make, use, or sell X," the agreement cannot convey that absolute right because not even the patentee of X is given that right. His right is merely one to exclude others from making, using or selling X, 35 U.S.C. § 154. Indeed, the patentee of X and his Licensee, when making, using, or selling X, can be subject to suit under other patents. In any event, patent license agreements can be written to convey different scopes of promises not to sue, e.g., a promise not to sue under a specific patent or, more broadly, a promise not to sue under any patent the licensor now has or may acquire in the future.

As stated previously, the first prong of Schubert's three part "stepping in the

shoes" argument is that legal estoppel would prevent Murata from suing Schubert under the '946 patent if Murata were to acquire that patent. However, even assuming, arguendo, that such estoppel against Murata exists, the final two prongs of Schubert's "stepping in the shoes" argument would fail. Given the assumption of estoppel against Murata, the 1982 license agreement would necessarily be a promise by Murata not to sue under any patent, including those acquired by Murata in the future.[8] In the 1984 agreement, Suessen incurred what Murata promised in 1982.

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8. Given such a promise, a subsequent suit by Murata under a hypothetically-acquired '946 patent would derogate from what was granted by the license. Conversely, if the agreement were merely a promise not to sue under the listed patents only, there could be no estoppel against Murata asserting the '946 patent.
[N. 8 & 9 at 829 F.2d 1081]

Thus, Suessen would be committed to forebear from suit under (1) the transferred patents and (2) any of Murata's nontransferred patents and (2) any of Murata's nontransferred patents (future and present).[9] That commitment does not include a promise not to sue under Suessen's own '946 patent.

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9. Regarding the second promise, because Suessen cannot normally sue under patents remaining in Murata's hands, a promise not to sue under such patents has no realistic effect. Hence, the second promise would have significance only for Murata patents not transferred in the 1982 agreement but acquired by Suessen from Murata in the future. Though the district court construed the 1984 agreement as containing only the first promise, which pertains to the patents transferred with the 1982 agreement, that construction makes sense in light of its initial holding that the 1982 agreement pertains only to those patents. Our construction of the 1984 agreement as containing a second promise arises from our assumption, arguendo, that the 1982 agreement pertains also to Murata patents not transferred with the 1982 agreement.

[N. 9 at 829 F.2d 1081]

Schubert's "standing in the shoes" argument, however, would add to Suessen's commitment a promise not to sue under Suessen's separate patents that Murata never owned. On the facts of this case, we cannot interpret the 1984 agreement so broadly, at least not with respect to the '946 patent.

The district court correctly determined that there is nothing in the 1984 agreement about the '946 or other Suessen patent rights. Schubert points to no extraneous evidence tending to show any understanding on the part of either contracting party that Suessen was to forego rights under the '946 or any other patent then owned by Suessen. To the contrary, that a lawsuit under '946 was ongoing but not mentioned in the 1984 agreement indicates strongly that there was not intent by the **[829 F.2d 1082]** parties to have Suessen forfeit its rights

under '946. Furthermore, an implied promise by Suessen to forego its '946 suit is inconsistent not only with Suessen maintaining its lawsuit after the 1984 agreement but, also, with the course of events leading up the 1984 contract.[10] In sum, we agree with the district court's conclusion that the 1984 agreement did not impose on Suessen any obligation to stop its ongoing suit under the '946 patent.

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10. For example, the invention of Suessen's '946 patent had a dynamic commercial impact since its public unveiling in 1975. As early as 1974, Suessen discussed its new technology with Schubert. Schubert tried to develop a comparable version of Suessen's advancement but was unsuccessful. Eventually, around June, 1982, Schubert requested a license from Suessen but was refused. Three weeks later, Schubert obtained a license under the '011 and other Hirai patents. Subsequently, this lawsuit was filed. Those facts show a great value placed by Suessen on its '946 patent and an unwillingness to license it to Schubert.
[N. 10 at 829 F.2d 1082]

Schubert cites no case discussing its "standing in the shoes" theory. It does, however, rely on Kearney & Trecker Corp. v. Giddings & Lewis Mach. Tool Co., 285 F.Supp. 483, 159 USPQ 433 (E.D. Wis. 1968). There, plaintiff sued defendant under a "Brainard patent." Plaintiff also owned a "Morgan patent," which was assigned to it by a third party subject to a previous license to the defendant. In the context of denying a summary judgment motion, the district court discussed a need at trial to focus on whether the claims of the Brainard patent had "separate features" from the Morgan claims. However, the court did not specifically address the issue discussed herein, i.e., whether the assignment to plaintiff of the patent subject to a license to the defendant affected plaintiff's suit against defendant under its

separately-owned patent.[11] In any event, Kearney is not binding precedent on this court.

Schubert argues that not implying a license in this case is unfair because Schubert paid valuable consideration for the right to practice the '011 invention but is in danger of losing that right as a result of doing no more than that for which it paid. We disagree. The right Schubert paid for in the 1982 agreement was freedom from suit by Murata, not Suessen. Indeed, when Schubert signed the 1982 agreement, it was aware of possible suit by Suessen, who

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11. On that issue, we note that the assignment of the Morgan patent in Kearney seems to have occurred before plaintiff filed suit under its Brainard patent. In this case, as expressed above, the assignment of the '011 patent was made after Suessen filed suit under '946, a fact which cuts against interpreting the assignment as foreclosing the suit.
[N. 11 & 12 at 829 F.2d 1082]

had previously denied Schubert a license under the '946 patent. Moreover, Schubert has not shown us that it has lost any obligation Murata may still owe it under the 1982 license agreement, e.g., not to sue under any patents Murata still has or may acquire. To rule that the Suessen acquisition of the '011 patent somehow bestows on Schubert an absolute defense to a suit already filed by Suessen under '946, would result in an unintended windfall to Schubert that makes no sense under the facts of this case.

B. Infringement Of The '946 Patent By The Redesigned Spincomat

On October 16, 1985, Suessen filed an Emergency Motion for an Order requesting the district court to enjoin Schubert from infringing claim 18 of the '946 patent by exhibiting and demonstrating at the Textile

Hall in Greenville, South Carolina, a modified, but allegedly still infringing, Spincomat. The district court determined that despite Schubert's attempts, this modification does not avoid infringement of the '946 patent.[12]

Schubert had disengaged electrical relays in order to interrupt control of the prefeed in the piecing cycle. As modified, the sliver is prefed for a short period of time prior to commencing piecing. Schubert contended that the disengagement of relays altered control of advance piecing so that

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12. The district court issued two orders enjoining activity related to infringement by the redesigned Spincomat. One issued on October 23, 1985 enjoining the infringing activity. A second order, with findings, issued on December 24, 1985, denying a motion to stay the first order.
[N. 12 829 F.2d 1082]

the device no longer performs the recited function of a fiber preparation means.

[829 F.2d 1083]

Suessen countered with a video tape showing that despite the reprogramming to omit the sliver prefeed from the start of the piecing sequence, if the piecer is unsuccessful on the first try (without a sliver prefeed) it would call for a "repeat," second try with a prefeed. The district court compared the "repeat" piecing sequence with claim 18 and determined that it functions in precisely the same sequence to accomplish piecing just as had the original Spincomat and thus employed the same fiber supply preparation means called for in the '946 patent.

The instant "fiber supply preparing means" is the mechanism for prefeed of the lead end of the sliver. It was determined that the Spincomat continued to perform the

function specified in the claim limitation. Although modified, the device, in accord with the recitation in claim 18, has a means for preparing the spinning assembly including a mechanism for starting and operating the feeding means for a period of time and then stopping the feeding means. This, the court found, corresponds exactly to the function of "fiber supply preparation means" recited in claim 18.

Schubert argues that the device is not infringing because it would have to fail each time in order to have an infringing prefeed. Otherwise, it is argued, the modified device merely operates under the prior art.

We agree, however, with the district court that claim 18 continues to read upon the device. We find no error and affirm the district court's order of January 2, 1986, directing that Schubert cease

manufacture, sale or use of the redesigned Spincomat.

C. The Direct Court's Award of Increased Damages And Attorneys' Fees Based On A Finding Of Willful And Deliberate Infringement And Exceptional Circumstances

The district court found infringement of the '946 patent by the original Spincomat to be willful and deliberate based upon two determinations: (1) that Schubert fully appreciated the great commercial significance of Suessen's apparatus and Schubert spent six or more years trying to engineer its own version, and (2) that Schubert fully appreciated the significance of the technological aspects of the improvement over the prior art represented by the '946 patent and its key role in the commercial success of the device. Based on

the finding of willfulness the court imposed an award of increased damages under 35 U.S.C. § 284 as to '946 patent infringement portion of the case. Upon those same determinations the court adjudged this as an exceptional case of infringement and awarded attorneys' fees under 35 U.S.C. § 285 for the portion of the case related to infringement of the '946 patent.

The underlying facts are undisputed. The question before us is whether the ultimate finding of willful infringement is clearly erroneous in light of those underlying facts and whether the award of increased damages and attorneys' fees was an abuse of discretion by the district court. Kloster Speedsteel, AB v. Crucible, Inc., 793 F.2d 1565, 1580-81, 230 USPQ 81, 91 (Fed. Cir. 1986), cert. denied, ___ U.S. ___, 107 S.Ct. 882, 93 L.Ed.2d 836 (1987); Reactive Metals and Alloys Corp. v.

ESM, Inc., 769 F.2d 1578, 1582-83, 226 USPQ 821, 824 (Fed. Cir. 1985).

Schubert argues clear error in the trial court's findings of willful infringement and exceptional circumstances, contending that reasonable reliance upon the advice of their German in-house counsel, that bona fide attempts to design around the patent and the seeking of a license support a conclusion of non-willful infringement.

A district court's finding of willful infringement is a finding of fact, reviewable under the clearly erroneous standard. CPG Products Corp. v. Pegasus Luggage Inc., 776 F.2d 1007, 1015, 227 USPQ 497, 502 (Fed. Cir. 1985). As noted earlier, the clearly erroneous standard is satisfied if we are left with the firm conviction that mistake has been committed. Anderson v. City of Bessemer City, 470 U.S.

at 564, 105 S.Ct. 1504. When increased damages are awarded under 35 U.S.C. § 284, the measure of those damages is committed to the [829 F.2d 1084] district court's discretion, the exercise of which will not be overturned absent a clear showing of abuse. CPG Products, 776 F.2d at 1015 n. 6, 227 USPQ at 502 n. 6.

It is well settled that a potential infringer having actual notice of another's patent rights has an affirmative duty of due care. That affirmative duty will normally entail the obtaining of competent legal advice before engaging in any potentially infringing activity or continuing such activity. In Underwater Devices, Inc. v. Morrison-Knudsen Co., Inc., 717 F.2d 1380, 1389-90, 219 USPQ 569, 576 (emphasis in original), this court stated:

> Where, as here, a potential infringer has actual notice of another's patent rights, he has an affirmative duty to

> exercise due care to determine whether or not he is infringing. * * * Such an affirmative duty includes, inter alia, the duty to seek and obtain competent legal advice from counsel before the initiation of any possible infringing activity.

Schubert did not obtain the advice of the United States counsel regarding the possibility of infringement of the '946 patent, but proceeded upon the opinion of German in-house patent counsel that making, using and selling in the United States the Spincomat piecing mechanism would be legitimate under the '011 patent license.

However, reliance on the advice of counsel is not determinative in this case.[13]

An appreciation of the technological and commercial significance of Suessen's rights, despite legitimate practice under '011 patent, put Schubert on notice to exercise due care prior to initiating any

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13. Furthermore in respect of willfulness, there cannot be hard and fast per se rules. Rolls Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 1109, 231 USPQ 185, 191 (Fed. Cir. 1986). Though it is an important consideration, not every failure to seek an opinion of competent counsel will mandate an ultimate finding of willfulness. Kloster Speedsteel, AB v. Crucible, Inc., 793 F.2d at 1579, 230 USPQ at 88. See also King Instrument Corp. v. Otari Corp., 767 F.2d 853, 867, 226 USPQ 402, 412, (Fed. Cir. 1985), cert. denied, ___U.S.___, 106 S.Ct. 1197, 89 L.Ed.2d 312 (1986). Conversely, that an opinion of counsel was obtained does not "always and alone" dictate a finding that the infringement was not willful. Kori Corp. v. Wilco Marsh Buggies and Draglines, Inc., 761 F.2d 649, 656, 225 USPQ 985, 989 (Fed. Cir.), cert. denied, 474 U.S. 902, 106 S.Ct. 230, 88 L.Ed.2d 229 (1985).
[N. 13 at 819 F.2d 1084]

activity which had the possibility of infringing. Before obtaining the license under the '011 patent, Schubert attempted unsuccessfully to obtain a license to the '946 patent from Suessen. Suessen's denial of a license to Schubert supports a conclusion that Schubert was explicitly aware of the possibility of infringement. Under those circumstances, Schubert must be held to a high degree of caution to avoid the possibility of infringement of the '946 patent. Underwater Devices, 717 F.2d at 1389-90, 219 USPQ at 576.

We have noted a good faith effort to "design around" as indicating support for a non-willful finding. Rolls Royce Ltd. v. GTE Valeron Corp., 800 F.2d at 1109, 231 USPQ at 191. We have also indicated value in encouraging such efforts. State Industries, Inc. v. A.O. Smith Corp., 751 F.2d 1226, 1236, 224 USPQ 418, 424 (Fed.

Cir. 1985). The district court did not, however, find that Schubert had exerted good faith efforts to design around the '946 patent. Rather, it was found that Schubert, unable to design its own automatic piecing device, knowingly proceeded to employ technology protected under the '946 patent.

The willful and deliberate nature of Schubert's infringement is not diminished by its asserted defense of implied license. The facts related to that assertion arose in the 1984 assignment of the '011 patent to Suessen, long after Schubert willfully initiated the acts of infringement. Accordingly, the district court properly omitted license as negating a finding of willfulness.

Having considered the findings of the district court and all of the arguments presented on appeal, we find no clear error

in the district court's determination that infringement of the '946 patent was willful and deliberate. Nor do we find the imposition of increased damages under 35 U.S.C. § 284 or the award of attorney fees under 35 U.S.C. § 285 abusive of the district **[829 F.2d 1085]** court's discretion. Where a finding of willful and deliberate infringement and a collateral finding of exceptional circumstances are premised on the same basis, this court has found no abuse of discretion in awarding both increased damages and attorney fees. S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc., 781 F.2d 198, 201, 228 USPQ 367, 368 (Fed. Cir. 1986). Accordingly, we affirm the district court's awards.

II. Infringement Of The '370 Patent

The '370 patent, entitled "Piecing Apparatus For An Open-End Spinning Machine," issued on November 27, 1979 in the name of Fritz Stahlecker and was assigned to Hans and Fritz Stahlecker. It was licensed to Suessen. The invention disclosed in the '370 patent is directed to the solution of a specific problem encountered during the automatic piecing cycle: the maintenance of tension in the yarn drawn off from the rotor during the piecing operation. The '370 patent discloses an apparatus with means of maintaining control while winding the yarn so that loops or slippage do not occur. The apparatus prevents slippage between the yarn winding package and the drive roll used to accelerate the yarn through a means of path control. A yarn path deflector is also

employed to deflect any slack which may occur in the yearn.

The claim recitation of an "auxiliary driven feed means" element is the focus of this appeal:

> auxiliary yarn guide means for guiding the yarn between the spool and a yarn outlet of a spinning rotor of the spinning assembly during piecing operations, said auxiliary yarn guide means including auxiliary driven feed means for said yarn.

A finding of literal infringement of a claim expressed in terms of a series of means for performing particular functions required involves interpreting the claim to define the recited function. If, as a threshold matter, the recited functions are not performed by the accused device, there can be no literal infringement. On the other hand, if an accused device is found to perform the recited functions, one must determine under § 112 para. 6 whether the means by which the accused device performs

each function is the same as on equivalent to the means disclosed in the specification for performing each function. See Data Line Corp. v. Micro Technologies, Inc., 813 F.2d 1196, 1201, 1 USPQ 2d 2042, 2055 (Fed. Cir. 1987). As held in D.M.I. v. Deere & Co., 755 F.2d 1570, 1575, 225 USPQ 236, 239 (Fed. Cir. 1985):

> In applying the "means plus function" paragraph of § 112, however, the sole question is whether the single means in the accused device which performs the function stated in the claim is the same as or an equivalent of the corresponding structure described in the patentee's specification as performing that function.

In holding that the Spincomat literally infringes the claims[14] of the '370 patent the district court found under § 112, para. 6, that it included an auxiliary driven

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14. Schubert is accused of infringing claims 1-7, 9-13, and 17-20 of the '370 patent, each requiring an "auxiliary driven feed means."
[N. 14 at 829 F.2d 1085]

feed "means," to perform the function of guiding and drawing off the yarn. It was determined that the Spincomat's fixed and movable pressure rolls are the means which perform the precise function of feeding yarn by an auxiliary drive.

The Spincomat's rolls were determined to be equivalent to the "auxiliary driven feed means" disclosed in the specification. In one sense the Spincomat rolls are not auxiliary, they are located on the spinning machine. During spinning, the rolls guide yarn between the rotor and the spool. But during a piecing operation, those rolls are "borrowed" as auxiliary rolls to perform exactly the recited function of drawing the yarn out of the withdrawal tube, feeding it into the yarn package, and guiding the yarn between the spool and the yarn outlet. It was determined that the borrowed rolls in their

auxiliary mode are a structural means equivalent to that disclosed in the [829 F.2d 1986] specification. See D.M.I. v. Deere & Co., 755 F.2d at 1575, 229 USPQ at 239.

Having reviewed the arguments raised on appeal, we find no clear error by the district court and affirm the finding of literal infringement of the '370 patent.

Conclusion

We affirm the decision of the district court finding infringement by the original Spincomat of the '946 and '370 patents and finding infringement of the '946 patent by the modified Spincomat. The awards of increased damages and attorney fees based on findings of willful infringement and exceptional circumstances are sustained.

AFFIRMED.

APPENDIX

Item 2

2.0 Trial Court Opinion (September 4, 1985, not reported), including Orders of:

2.1 September 4, 1985

2.1 September 30, 1985

2.3 October 23, 1985

2.4 December 30, 1985

APPENDIX, ITEM 2.0
(Trial Court Opinion)
(September 4, 1985)

[The District Court's Opinion is hereinafter called "D.S.C."]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
GREENVILLE DIVISION

SPINDELFABRIK SUESSEN -SCHURR, STAHLECKER & GRILL GmbH., HANS STAHLECKER, and FRITZ STAHLECKER,	)	
Plaintiffs,	)	
v.	)	Civil Action No. 83-2421-3
SCHUBERT & SALZER MASCHINENFABRIK AKTIENGESELLSCHAFT, and SCHUBERT & SALZER MACHINE WORKS, INC.,	)	
Defendants.	)	

[D.S.C. 1]

ORDER AND OPINION, INCLUDING
FINDING OF FACT AND CONCLUSION OF LAW

I. INTRODUCTION

A. Nature of the Action

This is an action for patent infringement. Both subject matter and in personam jurisdiction are admitted [Defendants' amended Answer and Counterclaim]. Trial on

all liability sues commenced on February 18, 1985, and was completed on February 23, 1985. All damage issues have been deferred pending resolution of the liability issues.

B. The Parties

Plaintiffs

Plaintiffs, Hans Stahlecker and Fritz Stahlecker, brothers, are citizens of West Germany and joint owners of the two patents in suit [PX 350, PX 351]. Plaintiff Spindelfabrik Suessen-Schurr, Stahlecker & Grill GmbH. ("Suessen") is a West [D.S.C. 2] German corporation, located in Suessen, West Germany. Suessen is a licensee of the patents in suit.

Hans Stahlecker is the chief executive officer of Suessen. Fritz Stahlecker is the chief executive officer of another closely related German company, Wilhelm

Stahlecker GmbH ("WST") (not a party to this litigation), which conducts research, development and engineering in the field of open-end spinning for Suessen under a contractual arrangement.

Suessen is in the business of manufacturing textile machinery and components therefor. One of its principal products is spin boxes for open-end spinning machines. Suessen's spin boxes are currently incorporated in the Schlafhorst Autocoro open-end spinning machine. It is manufactured by W. Schlafhorst & Co. of Moenchengladbach, West Germany, a customer of Suessen and a sublicensee of Suessen under certain patent rights, including the patents in suit [H. Stahlecker Tr. 1:35-38, 43].

Defendants

Defendant Schubert & Salzer Maschinenfabrik Aktiengesellschaft (sometimes referred to as "SSI" or "Ingolstadt") is a West German corporation located in Ingolstadt, West Germany. It is in the business of manufacturing and selling throughout the world textile machinery, including OES machinery.

Defendant Schubert & Salzer Machine Works, Inc. is the United States Sales and Service subsidiary of Schubert & Salzer (Germany). [D.S.C. 3]

Schubert & Salzer (Germany) manufactures a broad line of textile machinery, and, like Suessen, became involved in the OES field in the early 1960's. It has basically offered two models of OES machines in the United States--the RK 10, now obsolete, and the RU 11, which is now offered equipped with the

accused infringing "Spincomat" automatic piecing device.

The fact of such sales of accused devices by the defendants in the United States is admitted by defendants and therefore not in issue. The quantity of such sales in the United States is not now relevant, since the issue of damages has been deferred pending determination of the liability issues.

C. The Patents in Suit

The '946 Patent

Plaintiffs' United States Letters Patent No. 4,059,946 ('946) [PX 202] is entitled "Method and Apparatus for Start-Spinning a Thread on Open-End Spinning Units." The patent issued on November 29, 1977, on an application, Serial No. 637,050, filed in the United States on December 2, 1975, in the names of Dieter

Boettcher, Heinz Schultz and plaintiff, Fritz Stahlecker, all citizens of West Germany.

On December 2, 1975, pursuant to 35 U.S.C. § 119, the applicants for the '946 patent claimed in connection with their application the right of priority of West German patent application, Serial No. 2458042, filed in West Germany on December 7, 1974 [PX 203], and simultaneously therewith, filed in the [D.S.C. 4] United States Patent and Trademark Office a certified copy of the original West German application, specification and drawings showing that the application was duly filed in the West German Patent Office on December 7, 1974 [DX 2A].

The '946 patent application is a literal English language translation of West German Application No. 2458042, the only difference being a rearrangement in

the form in which the respective texts are presented [Dauster Tr. 6:18-20]. Accordingly, pursuant to 35 U.S.C. § 119, the '946 application is properly considered as having a U.S. filing date of December 7, 1974 [35 U.S.C. § 119; Witherspoon[15] Tr. 6:38-39].

The '370 Patent

Plaintiffs' United States Letters Patent No. 4,175,370 ('370) [PX 213] is entitled "Piecing Apparatus for an Open-End Spinning Machine." The patent issued on November 27, 1979, on an application, Serial No. 912,418, filed in the United States on June 5, 1978 in the name of plaintiff, Fritz Stahlecker.

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15. [See Curriculum vitae PX 341].
[N. 15 at D.S.C. 4]

On June 5, 1978, pursuant to 35 U.S.C. § 119, the applicant for the '370 patent claimed in connection with his application the right of priority of West German patent application No. 2728003, filed in West Germany on June 22, 1977 [PX 214], and simultaneously therewith filed in the United States Patent and Trademark Office a copy of the original West German application, specification and drawing with an appropriate [D.S.C. 5] certification by the West German Patent Office showing that West German application No. 2728003 was filed on June 22, 1977 [PX 213].

Whether the '370 patent is to be accorded its U.S. filing date, June 5, 1978, or whether it is to be accorded the benefit of the earlier filing date of German application No. 2728003 is not in issue and makes no difference for purposes of these proceedings.

II. BACKGROUND OF THE INVENTIONS OF THE PATENTS IN SUIT

A. Suessen's Involvement in Open-End Spinning Machinery and its Role in Automation thereof

Open-end spinning ("OES") is a relatively new technology which has come into increasing interest and subsequent use in the textile industry since the early 1960's. Suessen, which for some time prior to the 1960's was involved in manufacturing components for ring spinning machinery, followed the new trend on OES very early, and in 1962 began (through WST) its own development of OES components. Following this, Suessen began making OES bearing assemblies and rotors, and later the entire OES spin box, for sale to manufacturers of

OES machines[16] [H. Stahlecker Tr. 1:39-41]. Since their entry into the OES field, Suessen/WST have made many significant developments in this technology resulting in the granting of hundreds of **[D.S.C. 6]** patents worldwide, of which about 70 are U.S. patents [H. Stahlecker Tr. 1:43; F. Stahlecker Tr. 1:97-99; PX 372]. The ability to consistently achieve a quality piecing point was among their most significant achievements [F. Stahlecker Tr. 1:122].

As early as 1972, Fritz Stahlecker and others at Suessen/WST foresaw the commercial potential of automated OES. However, these views were not necessarily shared by

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16. Among the spin boxes which Suessen developed is the spin box for defendants' RU 11 machine [H. Stahlecker Tr. 1:40].

17. [Omitted in original Opinion.] **[N. 16 at D.S.C. 5]**

the OES machine manufacturers[18] at that time. In 1975 Suessen introduced to the trade at the Milan ITMA textile machinery trade show its new WST designed Spincat/Cleancat automation for OES machines. This automation system basically involved twin traveling units designed to travel along an OES machine in tandem and automatically clean rotors and piece up broken yarn ends at the numerous spinning stations, as required.

The reception given by the industry to Suessen's introduction of its Spincat/ Cleancat OES automation was overwhelmingly positive [PX 8, PX 10]. Thereafter, in the late 1970's this technology and Suessen's underlying patents were licensed to W.

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18. Notably, defendant Schubert & Salzer who expressed extreme skepticism [H. Stahlecker Tr. 1:47].
[N. 18 at D.S.C. 6]

Schlafhorst & Co. of Monchengladbach, West Germany, who began incorporating the Spincat/Cleancat technology in its "Autocoro" OES machine [H. Stahlecker Tr. 1:44-47; F. Stahlecker Tr. 1:101-102]. **[D.S.C. 7]**

B. The Invention of the '946 Patent and its Role in OES automation

Prior to the '946 patent, piecing[19] made on OES machines by operators, or by earlier unsuccessful automatic piecers, suffered from a common problem--namely, the resultant yarn piecing points were inconsistent in size and strength and, as such, represented a yarn defect which typically had to be subsequently cut out of the yarn

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19. "Piecing" or "piecing point" is a term used to refer to a location in a length of yarn where the yarn has been rejoined after a break. **[N. 19 & 20 at D.S.C. 7]**

and replaced with a knot [Lord[20] Tr. 2:7-8]. The invention of the '946 patent has for its object the provision of a method and apparatus for providing precise control of the fiber feed during the restart of the spinning operation so that the quantity of fibers fed during the restarting (piecing) operation can be controlled to thereby obtain uniform, quality yarn piecing points--that is, piecing points which closely match the appearance and strength of the yarn itself, and which can be repeated from piecing point to piecing point on the same spinning unit and between different spinning units.

In order to better understand the contribution to the art of the invention of the '946 patent, it is necessary to have

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20. [See Lord Curriculum vitae PX 342]. **[N. 20 at D.S.C. 7]**

basic knowledge of the principles of open-end spinning. The OES process basically involves the production of a twisted yarn directly from sliver (a relatively large, rope-like strand of fibers). [D.S.C. 8]

The principal elements of the spinning system of an OES machine are shown schematically in Figure 1:

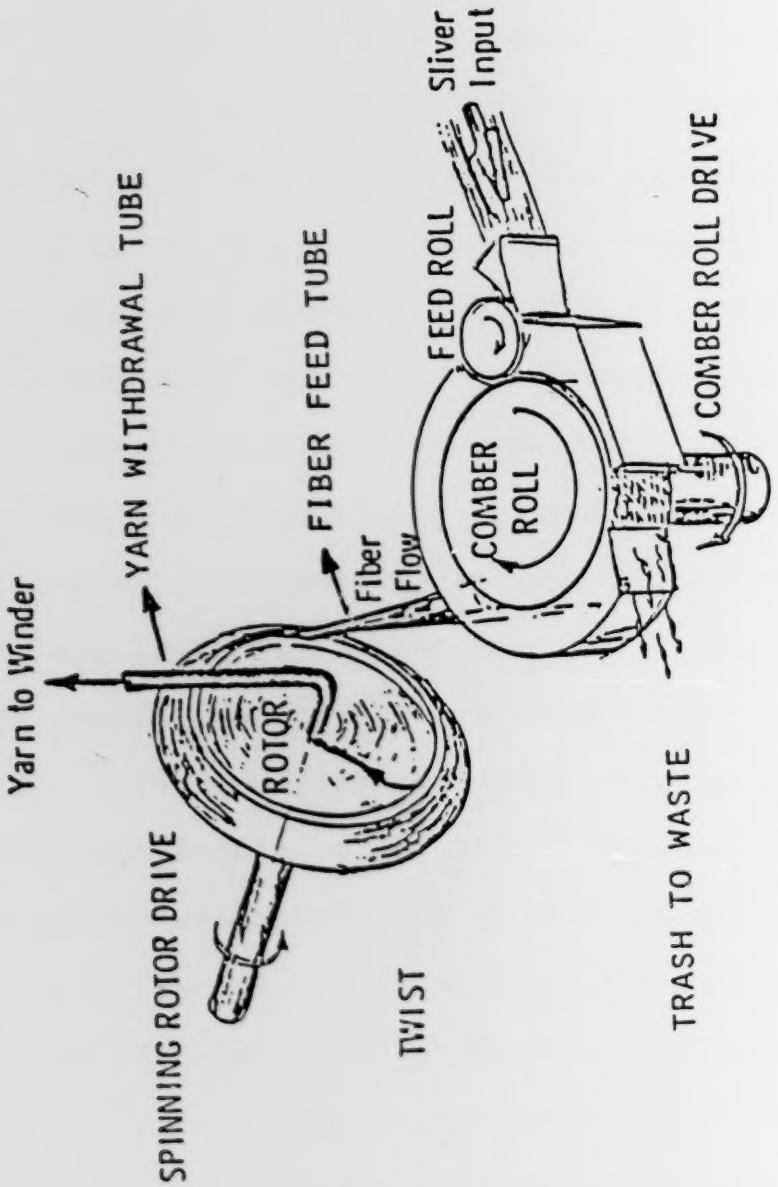
Yarn to Winder
YARN WITHDRAWAL TUBE
FIBER FEED TUBE
Fiber Flow
FEED ROLL
Sliver Input
COMBER ROLL
COMBER ROLL DRIVE
ROTOR
SPINNING ROTOR DRIVE
TWIST
TRASH TO WASTE

FIGURE 1

Referring to Figure 1, sliver is drawn into the system by means of a feed roll which, in turn, feeds the sliver to a comber roll. This comber roll, which is provided with teeth and adapted to rotate at high speeds, continuously combs individual fibers from the continuously fed sliver and directs these fibers through a feed tube into a cup-shaped rotor provided with an interior annular groove. The rotor is adapted to rotate at very high speeds with the result that individual fibers fed through the feed tube to the interior of the rotor are directed by centrifugal force into the rotor [D.S.C. 9] groove where they form a ring of fibers. During spinning, twist is continuously inserted into this ring of fibers which is pulled out of the rotor groove in the form of twisted yarn, while at the same time, the incomplete ring

is continuously replenished with new fibers from the feed tube [PX 334, PX 334A].

In order to start this continuous spinning operation, a length of twisted yarn is inserted down into the yarn withdrawal tube and into contact with the fiber ring where it attaches itself to a point on the fiber ring and begins to insert twist into the fiber ring at that point. Upon attachment (piecing), the inserted twisted yarn end is then pulled out of the yarn withdrawal tube, bringing the newly formed twisted yarn with it, and spinning is restarted. The area where the yarn end is joined with the fiber ring is known as the "piecing point" [PX 334, PX 334A].

The quantity of fibers in the fiber ring, and thus the size of the fiber ring, will have a direct influence on the nature of the "piecing point." If the ring of fibers is oversized in comparison to its

desired size (which should match the yarn count) during spinning of the particular yarn being produced, then the piecing point will manifest itself as an undesirable thick place in the yarn. On the other hand, if the ring of fibers is undersized, then the piecing point will manifest itself as a weak, undesirable thin spot in the yarn [PX 334, PX 334A; Lord Tr. 2:16, 27].

In the usual OES system, when a yarn breaks, yarn break detection means are provided to immediately stop the [D.S.C. 10] sliver feed roll at that spinning station, and thus stop the sliver feed. This is imperative, since otherwise, fibers would continue to feed into the rotor without being removed in the form of yarn, with the result that the system would be choked with fibers being fed into the rotor but not being removed as yarn. Additionally,

even though the sliver feed is stopped at a yarn break, the combing roll (for engineering reasons) continues to rotate. As a result of these two conditions, the lead end of the sliver fed into the system at the moment the sliver feed stops continues to be combed by the comber roll. This lead end of the sliver is called the "fiber beard" or "tuft." The longer the stationary fiber beard or tuft is subjected to the combing action of the continuously rotating combing roll, the thinner the beard or tuft will become [F. Stahlecker Tr. 1:110, 116-117; Lord Tr. 2:30].

When a yarn breaks, there is necessarily a lapse of time between the moment of the break and the moment at which an operator or an automatic piecer learns of the break and begins addressing the problem of restarting spinning by piecing up. And this lapse of time necessarily varies

depending upon the whereabouts of the operator or automatic piecer at the moment of the break, how long it takes to recognize the existence of the break, etc. Thus, because of this unknown time variable, when the piecing sequence is begun, the nature of the fiber beard or tuft is unknown vis-a-vis the amount of fibers remaining therein versus the amount of [D.S.C. 11] fibers which have been already combed out by the continuously operating combing roll after the sliver feed was stopped. As a result, prior to the invention of the '946 patent, the piecing sequence was started each time with an unknown, but more importantly, inconsistent quantity of fibers available to be fed into the rotor and form the ring of fibers to be incorporated into the piecing point. Additionally, as OES machine speeds have increased in the refinement of the OES

technology, the coordination of all of the steps necessary to carry out piecing has become more and more critical [Lord Tr. 2:7-17; f. Stahlecker Tr. 1:110-112, 117-119; PX 300, PX 334, PX 334A, PX 360, PX 361, PX 362, PX 365A, PX 366A, PX 373, PX 375-1 through 375-5].

Recognizing the foregoing problems, Fritz Stahlecker came to the realization that in order to get consistency in piecing points from piecing to piecing at the same spinning station, and further, consistency from spinning station to spinning station, something should be done to gain control over the quantity of fibers in the fiber ring at the moment the piecing point is formed. To this end, stated simply, he conceived that this could be achieved in the piecing sequence by first forming a totally new fiber beard, while eliminating the old, unknown fiber beard from the

system, and thereafter in a set, known time period, introducing the yarn end into contact with the fiber ring, which ring would now have the same quantity of fibers provided to it from the new, known fiber beard [D.S.C. 12] every time the piecing sequence was performed [F. Stahlecker Tr. 1:104-110, 114-116; Lord Tr. 2:16,27].

Having realized that this uniformity of the fiber beard was obtainable with proper timing during the piecing sequence, it then became apparent to Fritz Stahlecker and his WST co-inventors of the '946 patent, Boettcher and Schulz, that such a properly timed piecing sequence was readily achievable with an apparatus or automatic piecer which could (1) always perform the sequence in the same manner within a consistent, known time period, and (2) perform the necessary steps in the coordinated manner required by higher spinning speeds. Thus,

the Stahlecker et al. concept of achieving uniform piecings became merged with the concept of automation, with the result that the inventors came up with the first technique of producing consistent piecing points of acceptable quality in OES machines, which technique at the same time readily lent itself to being performed by an apparatus for automatically accomplishing the technique, even on high speed OES machines [F. Stahlecker Tr. 1:119-120, Lord Tr. 2:30].

Stated otherwise, the real contribution of the invention of the '946 patent is not that it just provides highly successful automation to the OES piecing process. Rather, it provides previously unobtainable consistently uniform, quality piecing points, which just happened to be achievable with automation of the piecing

sequence [F. Stahlecker Tr. 1:104-126; PX 363, 373, 375]. **[D.S.C. 13]**

Thus, with the advent of the '946 invention and its resultant uniform, quality piecing points, the previously required operation of replacing the random size, unacceptable piecing point with a knot was totally eliminated. Moreover, of course, the knot itself was eliminated, thereby upgrading the yarn quality considerably. This was the breakthrough which led to commercially successful automation of OES spinning machines [Lord Tr. 2:15-17; F. Stahlecker Tr. 1:122-125; PX 363].

The '946 invention was unveiled to the public in 1975 with the introduction by Suessen at the ITMA Show in Milan of its "Spincat" and "Cleancat" automated piecing and rotor cleaning device. From this point forward, automation of OES machines was

transformed from its pre-Spincat gadget status to its post-Spincat status as a commercial necessary for most modern state of the art high speed OES machines [H. Stahlecker Tr. 1:44-45; Lord Tr. 2:15-19].

With this successful automation, OES machine users no longer needed to be concerned about the occurrence of uncontrolled thick or thin spots in the yarn, with the result that the necessity for running the yarn through another process to eliminate or clear such defects and replace them with knots was totally eliminated. Moreover, the occurrence of the knot itself was eliminated [Lord Tr. 2:15-16].

The elimination of the additional step of clearing piecing points from OES yarns, while additionally providing knot-free yarns, has had a substantial economic impact in the [D.S.C. 14] U.S. in respect

to the OES yarn market. With this automation, users of OES machines are now able to compete effectively in the spun yarn marketplace with a broader range of yarns. For example, whereas the user of nonautomated OES machines is able to compete effectively in he spun yarn market in yarns ranging in size from English cotton count 20s and largers, the user of automated OES machines can now compete effectively in yarns ranging in size from English cotton count 30s and larger. This represents an estimated additional U.S. market available to OES machine users of about $300,000,000 [Lord Tr. 2:17-19; PX 332].

The actual commercial impact to date of the invention has been dynamic. All Schalfhorst Autocoro machines are now automated to produce uniform, quality piecing points made possible through the use (under

license from plaintiffs) of the invention of the '946 patent [Strunk Dep. Tr. 10, 13, 17-20; F. Stahlecker Tr. 1:158-9; PX 379]. Since 1978, Schlafhorst has sold, or has on order currently, in the United States alone about 850 of these automated machines, representing 163,200 spinning positions, and is considered the leader, worldwide, in the field of open-end spinning machinery [H. Stahlecker Tr. 1:43; Jones Dep. Tr. 7-8].

C. The Invention of the '370 Patent and its Role in OES Automation

The invention of the '370 patent is directed to the solution of a specific problem encountered during the automatic [D.S.C. 15] piecing cycle. More specifically, the basic form of automatic piecing apparatus invented and designed by WST for Suessen takes the general form of a piecing

carriage designed to travel along an OES machine and automatically piece up broken yarn ends as required. This traveling unit is basically equipped with means separate from the spinning machine itself for temporarily driving the yarn package and handling, guiding and feeding the yarn during the piecing operation--that is, handling, guiding and feeding the broken yarn end on the package, which has to be inserted back into the rotor to be pieced up with the fiber ring, as well as handling, guiding and feeding the newly pieced up yarn which has to be fed back to the winding package immediately after piecing. As soon as the yarn is connected by piecing, the relatively small diameter draw-off rollers begin pulling the yarn out of the spin box at normal spinning speed, while at the same time it is necessary to start driving the yarn take-up package to

wind up the yarn being fed by the draw-off rollers from the spin box. Since the face driven yarn package is of relatively larger diameter than the draw-off rolls, it does not accelerate as fast as the draw-off rolls with the result that a large loop tends to form in the yarn in its path of travel between the draw-off rolls and the take-up package. The loop can lead to problems in that the slack yarn loop, because the yarn is highly twisted, is difficult to control and will form into curls or kinks which will be carried into the winding [D.S.C. 16] package [F. Stahlecker Tr. 1:144-145; PX 377-1].

To solve the foregoing problem, Fritz Stahlecker came up with the invention of the '370 patent. In its broadest terms, this solution involved adding to the piecing unit some control means for controlling the course of yarn during this acceleration

phase in such a way as to reduce the tendency of the yarn to form a loop while at the same time applying a soft tension to the yarn to prevent the undesirable kinks from forming in whatever loop may nevertheless be formed. Stahlecker's control means specifically took the form of yarn path control at two points--first, a means to prevent slippage between the yarn winding package and the face drive roll being employed to drive (and accelerate) the package. This aided in the acceleration of the yarn winding package more quickly to thereby reduce the tendency of the yarn to form the uncontrolled slack loop in the first instance. Second, a yarn path deflector in the form of a lever or suction tube was provided to apply a soft tension to the yarn in the area where any small uncontrolled slack loop might nevertheless tend to form in cases where the first means

did not totally eliminate the problem [F. Stahlecker Tr. 1:145-149; PX 377-2, PX 377-3].

While the invention of the '370 patent may not, relatively speaking, rise to the same breakthrough, high level of contribution to the OES automation art attributable to the invention of the '946 patent, it does represent a significant contribution to the art of automated OES machines in that it [D.S.C. 17] eliminates a specific problem which can cause defective yarn packages.

The invention of the '370 patent is currently in use by Suessen's licensee, Schlafhorst, on its highly successful "Autocoro" automated OES machines [F. Stahlecker Tr. 1:150-153; PX 378].

III. THE DEFENDANTS' RELEVANT ACTIVITIES

As early as 1974, Fritz Stahlecker brought up in discussions with Schubert & Salzer (Germany) (then one of Suessen's OES spin box customers) the concept of automation of the piecing operation and demonstrated the prototype Spincat and Cleancat to them. At that time, Schubert & Salzer expressed skepticism about the concept and its likelihood of acceptance by the textile industry [H. Stahlecker 1:40, 46-47; F. Stahlecker Tr. 1:149].

Upon Suessen's introduction of its Spincat/Cleancat automation at the 1975 Milan trade show, and its attendant widespread demonstrated enthusiasm [PX 8, PX 10], Schubert & Salzer immediately recognized that they were now "in a very difficult position" and had to resolve that "precarious situation" as fast as possible [PX 4]. Within one week of the

Spincat/Cleancat introduction, a multi-person "task force" was commissioned by defendants on a "STRICTLY CONFIDENTIAL" basis to try to develop a Schubert & Salzer version of an automatic yarn piecing apparatus [PX 4, PX 5; Canzler Tr. 5:241]. This "task force" operated under the personal and direct control [D.S.C. 18] of defendants' Director of Engineering [PX 4]. The "task force" was charged with providing an expedited solution in six months, due to the immediate urgency of the situation, and because they (Schubert & Salzer were "continuously behind Suessen" [PX 4, PX 5]. This six-month period came and passed with no positive results [PX 8, PX 10, PX 13].

Nevertheless, Schubert & Salzer continued to recognize the critical need for automation as reflected in its management's May 1976 memorandum:

> I find it absolutely necessary to use all necessary means for the solution of the problem [automation] even though this calls for a delay of other tasks. [PX 8].

Schubert & Salzer's efforts to provide automated OES thereafter continued on into 1978 and 1979, during which time they finally recognized and resigned themselves to the necessity for (1) removing fibers fed to the rotor after the sliver feed was stopped for a yarn break, (2) accurately adjusting the sliver feed, and (3) controlling the amount of fibers to be contained in the rotor groove for piecing [PX 105]. Still, no Schubert & Salzer design for automation was forthcoming.

Unable to solve the problem with its own expertise, Schubert & Salzer next turned to outside help and established a joint venture with the ITR Research Institute at Reutlingen, Germany, to aid in developing a piecing apparatus that was

competitive with the apparatus embodying Suessen's patented [D.S.C. 19] inventions [PX 60, PX 63; Wulfhorst Dep. Tr. 74-75]. Despite even further work, including studies of the timing of the sliver pre-feed, the result of continued combing of the fiber beard by the opener roll, the relationship between the amount of fibers in the rotor and the piecing point formed therewith [PX 107, PX 108], as well as an investigation of results being obtained by Schlafhorst using Suessen's technology [PX 61], defendants were still unable to obtain quality piecing points.

By April, 1982, Schubert & Salzer had finally worked out a design for an automatic piecer and had realized the necessity of incorporating a prefeed of the sliver (time controlled fiber beard) as taught by Suessen's '946 patent [PX 33; PX 56A at p. 4]. However, they also realized that the

prefeed concept for making a uniform fiber beard was a novel and patentable concept and could cause patent infringement problems for them [PX 33].

Thus, around June, 1982, in connection with some discussions relating to the settlement of other disputes with Suessen, Schubert & Salzer requested a license under Suessen's time controlled fiber beard patent rights which are the subject of the '946 patent. Suessen refused this request for a license [H. Stahklecker Tr. 1:47-51; Canzler Tr. 5:249-250; PX 14, PX 15].

Three weeks after they were denied a license under Suessen's patent, Schubert & Salzer obtained a nonexclusive license from Murata Machinery Ltd., a Japanese company, under [D.S.C. 20] a group of patents known as the Hirai patents [Canzler Tr. 5:250]. These Hirai patents and defendants' act of taking a license thereunder are the focus

of several defenses raised by defendants which will be dealt with hereinafter.

Apparently, defendants' act of taking a license under the Hirai patents was in some way calculated to justify defendants' appropriation of plaintiffs' patented time controlled fiber beard technology. However, the taking of this license was done with defendants' full appreciation of the distinct possibility of plaintiffs' superior rights in the '946 technology [PX 33], and was nothing more than a pretext to a scheme of defendants' willful and deliberate infringement of the '946 patent [Canzler Tr. 5:249-255].

IV. THE HIRAI/MURATA EPISODE

As previously mentioned, in 1971, Suessen entered into the business of manufacturing spin boxes based on its WST developed technology and selling these spin

boxes to manufacturers of OES machinery. In connection with this effort, in March of 1972, Hans Stahlecker met in Tokyo, Japan, with representatives of Murata Machinery, Ltd., a Japanese textile machinery manufacturer, and Toymomenka, a Japanese trading company employed by Suessen to market Suessen products in Japan. At that time, Murata was involved in the manufacture of textile winding machines and was interested in expanding into the OES machinery market in which it had no experience [H. Stahlecker Tr. 1:51-53]. [D.S.C. 21]

As a result of this 1972 Tokyo meeting, Suessen and Murata entered into an agreement whereby Murata agreed to pay Suessen 350,000 Deutsche Marks (about $110,000 U.S.) for Suessen's agreement to furnish Murata with Suessen/WST knowhow and technical information relating to OES which would hopefully lead to the ultimate

development of a commercial Murata OES machine incorporating Suessen spin boxes [PX 222]. Thereafter, extensive meetings were held in Germany and Japan later in 1972 and early 1973 for the purpose of educating Murata in respect to the Suessen/WST OE technology. Nothing commercial came out of this Murata effort, and around 1975 the OES project was dropped by Murata. This, of course, terminated the Murata-Suessen collaboration, and contact between the two companies essentially ceased [H. Stahlecker Tr. 1:52-55; F. Stahlecker Tr. 1:127-134; PX 225].

In 1979, the previous Murata-Suessen collaboration was brought into focus again at Suessen, when it came to the Stahleckers attention that, during the Suessen collaboration period Murata had caused to be filed certain patents throughout the world in the name of one Hironori

Hirai, a Mura employee.[21] These patents dealt with technology derived in a major way from Fritz Stahlecker during the earlier Suessen collaboration period, and thus caused Suessen a great deal of concern [F. Stahlecker Tr. 1:126-134; 2:119; PX 225]. **[D.S.C. 22]** Although these patents make no specific mention of a time controlled fiber beard [Lauschke Tr. 5:4-6], of concern to Suessen and of particular relevance here, was Hirai's (Murata's) claim of origination of the concept of controlling the sliver feed elements to create a new fiber beard of undamaged fibers during the piecing-up operation. Apart from the surprisingly surreptitious nature of the act, these Hirai (Murata)

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21. Notably, Murata's interest in these Hirai patents was not evidenced on the face of the Hirai patents [e.g., PX 210, DX 11].
[N. 21 at D.S.C. 21]

patents appeared to have claims of very broad scope, and thus the potential of creating, especially in Germany where Suessen and its licensee Schlafhorst both conducted their manufacturing, a cloud over Suessen's ability to exploit and license its own OES technology, particularly in respect to OES Spincat automation [Lauschke Tr. 5:6]. OES automation had been the focus of substantial research and development effort at WST since at least as early as 1972, and formed the basis for Suessen's Spincat/Cleancat product and widely patented technology used by Suessen and licensed to Suessen customers [H. Stahlecker Tr. 1:55-56].

Actually, Hirai's patent application activity had been routinely noted by WST's patent department as early as August, 1975, when the publication of the yet to be examined Hirai German patent application was

recorded in that department's routine system for monitoring the publication and issuance of applications and patents by others in fields of interest to WST. [DX 32; Lauschke Tr. 4:240-247, 263-265, 5:4-5]. Thereafter, in 1977, this Hirai German application was noted by the German [D.S.C. 23] Patent Office as a possible prior right in connection with the prosecution of the Stahlecker et al. German application, which forms the basis for the '946 U.S. Patent in suit, and the decision was made at that time by the WST patent department to defer examination of the German Stahlecker application until examination of the German Hirai application was completed and the claims finally agreed upon by the German Patent Office. [DX 114, 114A; Lauschke Tr. 4:250-256]. However, it was not until 1979, after changes had been made in the Hirai German application during its

prosecution, and the claims were finally formulated, did it become apparent to WST's patent department that Hirai (Murata) was going to obtain claims in Germany of a scope possibly broad enough to cover certain aspects of Suessen's OES automation technology. [Lauschke Tr. 5:20-24]. At this point, the Stahlecker brothers were informed for the first time of Hirari's activities and the concern posed by Hirai's now examined German patent application which was soon to come into effect as a German patent. Only at this point did it then come to light that Hirai (Murata) was about to obtain patent protection on subject matter derived from Fritz Stahlecker during the earlier Suessen-Murata collaboration period. [H. Stahlecker Tr. 1:55-56; 68-77; F. Stahlecker Tr. 2:123; Lauschke Tr. 4:244-259, 5:4-8, 20-24].

Thus, on August 6, 1979, this concern led Hans Stahlecker to send a telex [PX 226, p. 1] to Mr. Junichi Murata, Murata's president, (1) complaining of these Murata acts, (2) reminding Mr. Murata that the subject matter of Hirai's noted [D.S.C. 24] patents was essentially derived from Suessen, and (3) politely requesting (or demanding) that Mr. Murata assure Suessen that Murata would not instigate any claims under these Hirai patents against Suessen or any Suessen customer [H. Stahlecker Tr. 1:55-56].

On August 8, 1979, Mr. Murata responded [PX 26, p. 2] (1) with an acknowledgment of his appreciation of the situation, (2) with the statement, "Basically your views are respected," and (3) with the suggestion that practical details leading to a solution to the problem be worked out at the soon to be held 1979 ITMA textile machinery

show in Hannover, Germany. Following this, Messrs. Murata and Hans Stahlecker did meet in Hannover. As a result of this meeting, Hans Stahlecker became satisfied that Murata would never assert the Hirai patent against Suessen or its customers [H. Stahlecker Tr. 1:55-61].

Suessen thereafter laid to rest the matter of Murata's surreptitiously obtained Hirai patents until late 1983 when the matter once again surfaced as a result of a ruling handed down by the German High Court. More specifically, in 1983, Hans Stahlecker was advised that the German Court handed down a ruling, the effect of which was that an existing nonexclusive right under a German patent could be defeated by an assignment of the patent by the owner to a third party. Thus, the Hirai patents cloud once again appeared. Murata now had no interest in the OES

field, and if it chose to sell the Hirai patents to a third party, the new owner might choose to assert the patents with their broad claims against [D.S.C. 25] Suessen or its customers [H. Stahlecker Tr. 1:61].

As a result of the foregoing, Hans Stahlecker and Junichi Murata met once again, this time in the fall of 1983 at the Milan, Italy ITMA machinery show. At this point, Hans Stahlecker put this matter completely to rest, once and for all time, by negotiating the outright purchase from Murata of the complete portfolio of Hirai

patents [H. Stahlecker Tr. 1:61-63].[22] The consideration for the purchase was the return to Murata of the approximately $100,000 which Murata had paid to Suessen for its know-how back in 1972 [H. Stahlecker Tr. 1:62]. The agreement [PX 227] was formalized in writing and executed on February 17, 1984. The net effect of Suessen's acquisition of these patents was that the Hirai thorn in Suessen's side was finally and completely removed [H. Stahlecker Tr. 1:61; PX 227].

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22. Japanese Patent No. 1 042 051, Swiss Patent No. 601 512, German Patent Application No. 25 05 943, French Patent No. 75 04439, British Patent No. 1 486 161, Italian Patent No. 1 032 236 and U.S. Patent No. 4,022,011 [PX 227].
[N. 22 & 23 at D.S.C. 25]

In late 1984, Suessen formally disclaimed the Hirai U.S. patent [PX 370].[23] The reason for this disclaimer was quite simply that Suessen had consistently taken the position from the outset that Hirai derived the invention which is the subject of his patents from Fritz Stahlecker in the Suessen/Murata contacts which took place in late 1972 and 1973 [D.S.C. 26] (described above), and Suessen was advised that a U.S. patent based on an invention deried from another is invalid as a matter of law. (See 35 U.S.C. § 102 (102(f)[24] [H. Stahlecker Tr. 1:65].

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23. Under 35 U.S.C. §253, a patent owner is given the right to disclaim or dedicate to the public the remaining term of a patent owned by him. [N. 23 at D.S.C. 25]

24. § 102. A person shall be entitled to a patent unless--

* * *

(f) he did not himself invent the subject matter sought to be patented . . . .

[N. 24 at D.S.C. 26]

V. INFRINGEMENT

A patent may be infringed either directly or under the judicially created doctrine of equivalents. The test for determining whether a patent is directly infringed is set forth succinctly in Graver Tank & Mfg. Co., Inc. v. Linde Air Products Co., 339 U.S. 605, 607 (1950), reh'g. denied, 340 U.S. 845 (1950).

> In determining whether an accused device or composition infringes a valid patent, resort must be had in the first instance to the words of the claim. If accused matter falls clearly within the claim, infringement is made out and that is the end of it. [Emphasis added].

The test is a simple one, and involves merely "reading" the claim on an accused device. It does not entail a comparison of the drawings in a patent to the accused device. Amstar Corp. v. Envirotech Corp., 730 F.2d 1476, 1481-1482 (Fed. Cir. 1984), cert. denied, 105 S.Ct. 306 (1984);

Environmental Designs, Ltd. v. Union Oil Co. of Cal., 713 F.2d 693, 699 (Fed. Cir. 1983), cert. denied, 104 S. Ct. 709 (1984).

If the defendants escape direct or literal infringement, the "Doctrine of Equivalents" then becomes relevant. [D.S.C. 27] The rationale behind the doctrine of equivalents is set forth in the Graver Tank opinion as follows:

> But courts have also recognized that to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing. Such a limitation would leave room for--indeed encourage--the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of law. One who seeks to pirate an invention, like one who seeks to pirate a copyrighted book or play, may be expected to introduce minor variations to conceal and shelter the piracy. Outright and forthright duplication is a dull and very rare type of infringement. To prohibit no other

> would place the inventor at the mercy of verbalism and would be subordinating substance to form. It would deprive him of the benefit of his invention and would foster concealment rather than disclosure of inventions, which is one of the primary purposes of the patent system.

339 U.S. at 607.

The test for determining infringement under the doctrine involves a comparison of the claims to the accused device, in view of the apparatus as disclosed in the patent. Thereafter, "if [the] two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form or shape." [Emphasis added]. Graver Tank & Mfg. Co., Inc. v. Linde Air Products Co., supra, 339 U.S. at 608; Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1361 (Fed. Cir. 1983); Radio Steel & Mfg. Co. v. MTD Products, Inc., 731 F.2d 840, 847 (Fed. Cir. 1984), cert.

denied, 105 S.Ct. 119 (1984). [D.S.C. 28] The doctrine of equivalents thus avoids the conversion of the patent grant into a "hollow and useless thing." 339 U.S. at 608.

The apparatus claims in both patents at issue utilize "means plus function" language. This type of claim is authorized by paragraph 6 of 35 U.S.C. § 112 which permits expressing an element as a "means" for performing a specified function. The statute further states that such a claim "shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." [35 U.S.C. § 112].

A. The '946 Patent

Plaintiffs charge defendants with infringement of apparatus Claim 18 of the

'946 patent. This claim depends from Claim 17, and as such, reads as follows:

18. Apparatus according to claim 17,

[17. [a] Apparatus for thread piecing in an open-end spinning assembly comprising:

[b] opening means for opening sliver being supplied to a spinning rotor of said spinning assembly.

[c] feeding means for feeding sliver to said fiber opening means,

[d] piecing means including means for introducing a thread end back into said spinning rotor to be pieced together with a fiber ring formed in said spinning rotor,

[e] rotor control means for moving said spinning rotor from a stop condition toward an operating spinning speed to accommodate piecing by said piecing means,
[D.S.C. 29]

[f] and fiber supply preparing means for preparing said spinning assembly for a piecing operation prior to movement of said spinning rotor from its stopped position, said fiber supply preparing means including means for starting and operating said feeding means for a period of time and then stopping said

feeding means, said starting and stopping being accompanied by a continuously operating opening means, whereby uniform fiber tufts are arranged at said sliver feeding means to accommodate said piecing operation to be subsequently performed.]

[g] further comprising means for supplying a vacuum to said spinning rotor to remove any fiber supplied during said preparation of said spinning assembly by said preparing means [PX 202].

The Court finds that Claim 18 reads literally and directly on defendants' Spincomat automatic piecer as employed on defendants' RU 11 OES machine [PX 307, PX 320, PX 321]. Considering each of the claim elements [a]-[g]:

[a] The RU 11 is an open-end spinning assembly, and together with the Spincomat they piece thread

[Bartlett[25] Tr. 3:45; PX 27, PX 27A, PX 56, PX 56A].

[b] The RU 11 is equipped with an opener roll at each spinning position which functions to open the sliver being supplied to the spinning rotor of the spin box or spinning assembly [PX 27, PX 27A, PX 56 , PX 56A, PX 301, PX 302, PX 303; Wulfhorst Dep. Tr. 46; Bartlett Tr. 3:45].

[c] The RU 11 is equipped with a sliver feed roll at each spinning position which functions to feed the sliver to the opener roll [PX 27, PX 27A, PX [D.S.C. 30] 56 , PX 56A, PX

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25. [See Bartlett Curriculum vitae PX 340]. [N. 25 at D.S.C. 29]

301, PX 302, PX 303; Wulfhorst Dep. Tr. 45; Bartlett Tr. 3:45].

[d] The Spincomat and the RU 11 are equipped with several elements which function to introduce a thread end back into the spinning rotor to be pieced together with the fiber ring formed in the rotor. These elements include the feeding unit, package drive roll, suction tube, centering worm, thread guide or sickle, and dropping worm on the Spincomat; and yarn outlet tube and suction apparatus on the RU 11. [PX 27, PX 27A, PX 56, PX 56A, PX 308, PX 309, PX 310, PX 311; Request For Admission 29 at Bartlett Tr. 3:41; Bartlett Tr. 3:45-46].

[e] The RU 11 is equipped with a rotor cleaning and braking lever operable by the Spincomat during the piecing operation to stop the rotor by

disengaging it from a continuous drive belt and to restart the rotor by re-engaging it with the drive belt, which moves it toward an operating spinning speed to accommodate piecing [PX 27, PX 27A, PX 54, PX 56, PX 56A, PX 305, PX 306, PX 308 ; Request For Admission 31 at Bartlett Tr. 3:38; Parkhurst Tr. 5:128, Beuthien TGr. 4:179; Wulfhorst Dep. Tr. 48-50; Bartlett Tr. 3:46].

[f] The RU 11 and Spincomat are equipped with a "Program PC" electrical control which, together with the sliver feed roll and opener roll, prepare the spinning assembly for a piecing operation prior to [D.S.C. 31] movement of the spinning rotor from its stopped position [PX 27, PX 27A, PX 56, PX 56A, PX 304, PX 306; Request for Admission 34 at Bartlett Tr. 3:22; Requests for Admission 39 and 40 at Bartlett Tr.

3:34; Request for Admission 42 at Bartlett Tr. 3:35; Requests for Admission 46 and 47 at Bartlett Tr. 3:40; Request for Admission 48 at Bartlett Tr. 3:42; Wulfhorst Dep. Tr. 49-50; Bartlett Tr. 3:46-47]. The "Program PC" starts and operates the sliver feed roll for a period of time, and then stops it, while the opener roll continuously operates [PX 27, PX 27A, PX 56, PX 56A, PX 305, PX 306; Request for Admission 25 at Bartlett Tr. 3:14; Request for Admission 33 at Bartlett Tr. 3:34; Request for Admission 34 at Bartlett Tr. 3:22; Requests for Admission 39, 40 and 41 at Bartlett Tr. 3:34; Wulfhorst Dep. Tr. 46, 57; Bartlett Tr. 3:46-48]. The timewise coordination of these elements arranges uniform fiber tufts at the sliver feed roll to accommodate the piecing

operation to be subsequently performed [Bartlett Tr. 3:46-48; PX 56A at Section 2.7 (p. 4)].

[g] The RU 11 is equipped with a vacuum suction channel that is connected to the rotor spin box and supplies a vacuum to the spinning rotor to remove any fiber supplied during the preparation of the spinning assembly by the fiber supply preparing means [PX 27, [D.S.C. 32] PX 27A, PX 53 , PX 56, PX 56A, PX 310, PX 311, PX 400; Wulfhorst Dep. Tr. 48, 59; Bartlett Tr. 3:47-48; Request for Admission 42 at Bartlett Tr. 3:35; Requests for Admission 46 and 47 at Bartlett Tr. 3:40].

It is defendants' position that the accused device does not infringe Claim 18 because it does not employ any "rotor

control means" as called for by the claim. More specifically, they contend [Parkhurst Tr. 5:36-38] that in the '946 specification it is taught that piecing-up occurs "on the rise"--that is, during acceleration of the rotor from its stopped condition, and before it reaches full operating speed. Accordingly, they contend, the "rotor control means" plus the functional claim terminology must be limited to a structure which is capable of accomplishing piecing during acceleration of the rotor, and which structure is not present in the Spincomat device wherein piecing occurs at a time after the rotor is fully accelerated.

This position of noninfringement is not sustainable for two independent reasons. First, as already pointed out, the relevant langauge of the claim, "rotor control means, etc." requires only that the rotor

drive stem move towards the operating spinning speed, not that it accelerate at a reduced rate [Bartlett Tr. 3:49], and reads directly on defendants' structure. Specifically, the rotor brake controllable by the Spincomat serves the function of stopping the rotor by [D.S.C. 33] moving it out of engagement with a drive belt and again starting the rotor by permitting it to move back into engagement with the drive belt whereby it accelerates to full operating speed in approximately 1.2 seconds [PX 305, PX 308; Request for Admission 31 at Bartlett Tr. 3:38]. As such, defendants' structure is the full equivalent for purposes of 35 U.S.C. § 112 of the "rotor control means" disclosed in the '946 specification.

It is well settled that "means plus function" claim limitations are not to be limited to particular means set forth in a patent specification:

> To interpret "means plus function" limitations as limited to a particular means set forth in the specification would be to nullify the provision of [35 U.S.C.] § 112 requiring that the limitation shall be construed to cover the structure described in the specification and equivalents thereof. Patentees are required to disclose in the specification some enabling means for accomplishing the function set forth in the "means plus function" limitation. At the same time, there is and can be no requirement that applicants describe or predict every possible means of accomplishing that function. The statute, § 112-6, was written precisely to avoid a holding that a means-plus-function limitation must be read as covering only the means disclosed in the specification. [Subject matter in brackets supplied].

D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1574 (Fed. Cir. 1985). Accord: P.M. Palumbo, et al v. Don-Joy Co., et al, 762 F.2d 969 (Fed. Cir. 1985).

The fact that the "rotor control means" in the '946 disclosure is more sophisticated and may perform other functions, in addition to the function recited in Claim 18 , is of no consequence and cannot be used to avoid infringement. Radio Steel & Mfg. Co. v. MTD Products, Inc., 731 F.2d 840, [D.S.C. 34] 848 (Fed. Cir. 1984), cert. denied, 105 S.Ct. 119 (1984); Amstar Corp. v. Envirotech Corp., 730 F.2d 1476, 1482 (Fed. Cir. 1984), cert. denied, 105 S.Ct. 306 (1984).

Second, the "piecing on the rise" limitation sought to be read into Claim 18 is specifically recited in five other claims of the '946 patent,[26] making its absence from Claim 18 both conspicuous and material. It is well settled that as a

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26. Claims 8, 12, 13, 16, 19 and 23. [N. 26 at D.S.C. 34]

general rule limitations should not be read into patent claims. Moreover, where such a limitation is contained in other claims, the rule is manifest.

> Where, as here, the limitation sought to be "read into" a claim already appears in another claim, the rule is far more than "general." It is fixed. It is long and well established. It enjoys an immutable and universally applicable status comparatively rare among rules of law. Without it, the entire statutory and regulatory structure governing the drafting, submission, examination, allowance, and enforceability of claims would crumble. This court has confirmed the continuing life of the rule. Amstar Corp. v. Envirotech Corp., 730 F.2d 1476, 221 USPQ 649 (Fed. Cir. 1984); Raytheon Co. v. Roper Corp., supra; Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565 , 219 USPQ 1137 (Fed. Cir. 1983).

D.M.I., Inc. v. Deere & Co., supra at 1574. See also: Palumbo v. Don-Joy, supra, at 977.

B. The '370 Patent

Plaintiffs charge defendants with infringement of Claims 1-7, 9-13 and 17-20 of the '370 patent. Claim 1 reads as follows: [D.S.C. 35]

1. [a] A piecing device for an open-end spinning machine of the type having a plurality of spinning assemblies which each include a rotatable storage spool for storing yarn as it is spun at said spinning assembly, spool drive means for driving said spool during spinning operations, and yarn guide means for guiding the yarn between the rotor of the spinning assembly and the spool during spinning operations; said piecing device comprising:

[b] auxiliary spool drive means for driving the spool at a spinning assembly during piecing operations at said spinning assembly;

[c] auxiliary yarn guide means for guiding the yarn between the spool and a yarn outlet of a spinning rotor of the spinning assembly during piecing operations, said auxiliary yarn guide means including auxiliary driven feed means for said yarn.

[d] and control means for controlling the course of the yarn between the auxiliary driven feed means and the spool so as to reduce forma-

> tion of a loop in the yarn during acceleration of the drawing off of the yarn during piecing [PX 213].

The Court finds that Claims 1-7, 9-13 and 17-20 read literally and directly on defendants' Spincomat automatic piecer as employed on defendants' RU 11 OES machine [PX 316, PX 320, PX 321]. Considering each of the claim elements [a]-[d]:

> [a] The RU 11 has a plurality of spinning assemblies and is equipped with the Spincomat for piecing. Each spinning assembly includes a spool that stores yarn as it is spun [PX 27, PX 27A, PX 56, PX 56A, PX 301, PX 302; Bartlett Tr. 3:76]; a spool drive for driving or rotating the spool during spinning [PX 27, PX 27A, PX 56, PX 56A, PX 301, PX 302, PX 400 at Figure 1;

Bartlett Tr. 3:76]; and yarn guides[27] for guiding the **[D.S.C. 36]** yarn between the rotor of the spinning assembly and the spool during spinning operations [PX 27, PX 27A, PX 56, PX 56A, PX 301, PX 302, PX 400 at Figure 1; Bartlett TR. 3:76].

[b] The Spincomat is equipped with an auxiliary spool drive for driving the spool during piecing operations [PX 27, PX 27A, PX 56, PX 56A, PX 308, PX 309, PX 310, PX 311, PX 312, PX 313, PX 314, PX 315, PX 400; Karl Tr. 4:236; Bartlett Tr. 3:76].

[c] The Spincomat is equipped with yarn guides that guide the yarn

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27. During spinning the yarn is guided by the navel, yarn delivery tube, movable and fixed pressure rolls, stationary yarn guide, traversing yarn guide, and main spool drive [PX 301]. **[N. 27 at D.S.C. 35]**

between the spool and yarn outlet of the spinning rotor during piecing, including an auxiliary driven feed for the yarn. Specifically, during piecing this includes the fixed and movable pressure rolls as moved by the pressure roll separating lever, feeding unit and its rollers, suction tube, dropping worm, thread guide or sickle, and centering worm, which guide the yarn between the spool and yarn outlet of the rotor on the RU 11. The fixed and movable pressure rolls are "borrowed" by the Spincomat and operated by it via the pressure roll separating lever whereby they are under the control of the piecing device and function as a capstan drive for the yarn to provide the auxiliary driven feed for the yarn [PX 27, PX 27A, PX 56, PX 56A, PX 308, PX 309, PX 310, PX 311, PX 312, PX 313,

PX 315, PX 316, PX 400; Request for Admission 50 at Bartlett Tr. [D.S.C. 37] 3:68; Canzler Tr. 5:237; Karl Tr. 4:223; Bartlett Tr. 3:76-78, 4:120].

[d] The Spincomat is equipped with an auxiliary spool drive, centering worm, dropping worm, vacuum tensioning tube and package arm lifter to control the course of the yarn between the auxiliary driven feed means and the spool so as to reduce formation of a loop in the yarn during acceleration of the drawing off of the yarn during piecing. More specifically, the auxiliary spool drive presses the spool against the main spool drive and the vacuum tensioner tube imparts a soft tension to the yarn [PX 27, PX 27A, PX 56, PX 56A at p. 10; PX 311, PX 312, PX 313, PX 314, PX 315, PX 400; Requests for Admissions 51, 52

and 53 at Bartlett Tr. 3:68-69; Karl Tr. 4:236; Bartlett Tr. 3:78-79].

Claim 2 is literally infringed[28] because the Spincomat includes the fixed and movable pressure rolls as moved by the pressure roll separating lever and through which the yarn passes. The drive for the feed roll is synchronized with the auxiliary spool drive by the "Program PC." [PX 27, PX 27A, PX 56, PX 56A; PX 314, PX 315; Bartlett Tr. 3:84].

Claim 3 is literally infringed because the auxiliary spool drive on the Spincomat includes an auxiliary roll that is driven and engages the spool [PX 27 at pp. 9, 13; PX 56 at [D.S.C. 38] pp. 8, 9, 10 and 16; PX 308, PX 310, PX 311, PX 312, PX 313, PX

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28. Except for Claim 1, all claims are dependent and incorporate all of the elements of the claim(s) from which they depend.
[N. 28 at D.S.C. 37]

314, PX 315, PX 320, PX 400; Karl Tr. 4:236; Bartlett Tr. 3:84-85].

Claim 4 is literally infringed because the Spincomat is mobile and is selectively operable to perform piecing operations at respective individual spinning assemblies of the spinning machine [PX 27, PX 27A, PX 56, PX 56A, PX 320; Bartlett Tr. 3:85].

Claims 5 and 17 are literally infringed because the Spincomat includes a vacuum tensioner tube which takes up yarn that is delivered during the running-up phase and not wound, in case of differences between the feed velocity and winding speed. The vacuum tensioner tube is disposed between the pair of feed rolls and the auxiliary roll or auxiliary spool drive (PX 27, PX 27A at pp. 14, 17 and 43, PX 56, PX 56A at drawing 22; PX 313, PX 314 ; Bartlett Tr. 3:85-86, 92-93].

Claims 6 and 19 are literally infringed because the Spincomat includes a vacuum tensioner tube which produces a deflection of the course of the yarn by drawing the yarn toward it or into it, and which guides the yarn with maintenance of a given tension [PX 27, PX 27A at pp. 14, 17 and 43, PX 56, PX 56A at drawing 22, PX 313, PX 314; Bartlett Tr. 3:86-87, 93-94].

Claims 7 and 20 are literally infringed because the Spincomat includes a vacuum tensioner tube with an open nozzle end that acts as a deflecting element [PX 27, PX 27A, at pp. 14 , 17 [D.S.C. 39] and 43, PX 56, PX 56A at drawing 22, PX 313, PX 314; Bartlett Tr. 3:87, 94].

Claim 9 is literally infringed because the Spincomat control means includes several elements that influence the running path of the yarn in the zone between the feed rolls and the spool. Specifically,

this includes the auxiliary spool drive, centering worm, dropping worm, vacuum tensioning tube and package arm lifter. [PX 27, PX 27A, PX 56, PX 56A at drawing 22, PX 313, PX 314; Bartlett Tr. 3:87].

Claim 10 is literally infringed because the Spincomat elements that make up the control means include an auxiliary spool drive which influences the winding speed of the spool [PX 27, PX 27A, PX 56, PX 56A, PX 313, PX 314, PX 315 , PX 400; Karl Tr. 4:236; Bartlett Tr. 3:87-88].

Claim 11 is literally infringed because the Spincomat elements that make up the control means are connected to a "Program PC" that controls the work sequence of the piecing device and determines the time of switching in and/or the duration of the switching in. [PX 27, PX 27A, PX 56, PX 56A, PX 315, PX 400; Bartlett Tr. 3:88-90].

Claim 12 is literally infringed because the auxiliary spool drive, which is one of the Spincomat elements that make up the control means, is spring loaded to press together the spool and the auxiliary spool drive during the running-up phase. The spool is held in position by the package arm lifter [PX 27, PX 27A, PX 56, PX 56A, PX 311, PX 313, PX 315, PX 400; Bartlett Tr. 3:90-91]. **[D.S.C. 40]**

Claim 13 is literally infringed because the Spincomat elements that make up the control means are connected to a "Program PC" that controls the duration of the loading of the auxiliary spool drive [PX 27, PX 27A, PX 56, PX 56A, PX 315; Bartlett Tr. 3:91-92].

Claim 18 is literally infringed because the Spincomat elements that make up the control means are connected to a "Program PC" that controls the duration of the

switching in the yarn storage [PX 27, PX 27A, PX 56, PX 56A, PX 315; Bartlett Tr. 3:93].

Defendants contend that the accused device does not infringe any of the claims of the '370 patent because the piecing device does not include "auxiliary driven feed means" for the yarn [Parkhurst Tr. 5:86-87, 197]. This is based on the assertion that the fixed and movable pressure rolls are on the spinning machine and that they do not feed the yarn.

Defendants' position is not sustainable from a factual or legal standpoint. Factually, defendants' expert admitted (a) that the fixed pressure roll and movable pressure roll are indeed borrowed by the Spincomat piecing device from the spinning machine, (b) that during the yarn take-up after piecing these borrowed rolls draw the yarn out of the tube and feed it

onto the package,[29] and (c) that the borrowed rolls perform different functions when they are borrowed than they do when they **[D.S.C. 41]** are not [Parkhurst Tr. 5:198-199]. Furthermore, defendants' own in-house patent agent conceded that the fixed pressure roll and movable pressure roll on the accused device perform the same function during piecing (i.e., drawing off of the yarn) as would a separate set of rollers located on the piecing device [Canzler Tr. 5:237; PX 25A, PX 25B]. In other words, the movable and fixed pressure rolls guide the yarn between the rotor of the spinning assembly and the spool during spinning operations, but during piecing

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29. This is consistent with the testimony of plaintiffs' expert regarding the effectiveness of a capstan drive for feeding yarn [Bartlett Tr. 3:65, 4:100-101].
[N. 29 at D.S.C. 40]

operations their operation is controlled by the piecing device to guide the yarn between the spool and a yarn outlet of a spinning rotor of the spinning assembly. Legally, the case law is clear that a single element that performs two different functions at different times can be included twice in a means plus function claim. In re Hebberling, 357 F.2d 1001, 1007 (C.C.P.A. 1966); Phillips v. Lynch, 367 F.2d 601, 607, n. 5 (C.C.P.A. 1966). Thus, the Court finds that defendants' structure is the full equivalent for purposes of 35 U.S.C. § 112 of the "auxiliary yarn guide means ... including auxiliary driven feed means" disclosed in the '370 specification, and that the relevant claims of the '370 patent are literally infringed.

Furthermore, even if the claims were not literally infringed, the accused device

does the same work in substantially the same way and accomplishes the same result as the apparatus of the '370 claims and is therefore a full equivalent of the claimed subject matter and an infringement under the doctrine of equivalents, as set forth in Graver Tank, supra. [D.S.C. 42]

Defendants further contend that the doctrine of file wrapper estoppel results in a finding of noninfringement of the claims of the '370 patent. The doctrine of file wrapper estoppel is available only if there is an absence of literal infringement and only if the patentee narrowed the scope of its claims during prosecution in the Patent Office in response to a rejection based on prior art that relates to the patentable merit of the invention. Specifically, defendants contend that the doctrine of file wrapper estoppel requires the presence of two elements in order for

the claims to read on the accused device, based upon the addition of the word "auxiliary" during the prosecution of the application in response to a rejection by the Patent Office under 35 U.S.C. § 112 for indefiniteness [Parkhurst Tr. 5:90-92].

This contention cannot be sustained for two reasons. First, there is literal infringement of the '370 claims, rendering the doctrine inapplicable. Graver Tank & Mfg. Co., Inc. v. Linde Air Products Co., supra, 339 U.S. at 607. Second, even if there is not literal infringement, requiring resort to the doctrine of equivalents, the doctrine of file wrapper estoppel is not applicable in this case under the controlling legal precedents.

The application which matured into United States Patent No. 4,175,370 was rejected only once by an Official Action dated December 6, 1978. The rejection was

based solely on 35 U.S.C. § 112 because the Examiner viewed the originally presented claims as "indefinite-incomplete" and it did not pertain [D.S.C. 43] to the "auxiliary driven feed means." Indeed, in this same action, the Examiner specifically stated, "None of the claims appears to be anticipated by the prior art." Thereafter, amendments were made to claims to meet the Examiner's indefiniteness rejection.[30]

And, the Court of Appeals for the Federal Circuit has twice recently addressed the issue of file wrapper estoppel vis-a-vis claim amendments to cure Section 112 indefiniteness rejections.

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30. Defendants' patent law expert conceded that the rejection defendants were relying upon was purely a Section 112 rejection based on indefiniteness and not based upon prior art, and that such a rejection does not give rise to file wrapper estoppel. [Parkhurst Tr. 5:203-206].
[N. 30 at D.S.C. 43]

Caterpillar Tractor Co. v. Berco, S.p.A., 714 F.2d 1110, 1115 (Fed. Cir. 1983); Environmental Designs, Ltd. v. Union Oil Co. of Cal., 713 F.2d 693, 699 (Fed. Cir. 1983), cert. denied, 104 S.Ct. 709 (1984). These cases make it quite clear that claim amendments and remarks directed only to cure a Section 112 rejection do not give rise to file wrapper estoppel since, in effect, they are being used to cure a technical rejection rather than a rejection directed to the patentable merit of the invention.

VI. VALIDITY OF THE PATENTS IN SUIT

A. The '946 Patent

Defendants contend that Claim 18 of the '946 patent is invalid on three separate grounds: (1) invalid under 35 U.S.C. § 102 for anticipation in view of Hirai U.S. Patent No. 4,022,011; [D.S.C. 44]

(2) invalid for double patenting in view of Hirai U.S. Patent No. 4,022,011; and (3) invalid under 35 U.S.C. § 102 for anticipation in view of defendants' own prior art RK 10 machine, or under 35 U.S.C. § 103 in view of the latter when combined with the teachings of plaintiffs' earlier filed U.S. Patent No. 3,987,610.

The statutory presumption of patent validity created by 35 U.S.C. § 282 places on defendants the burden of proving invalidity by clear and convincing evidence. American Hoist & Derrick Co. v. Sowa & Sons, Inc. , 725 F.2d 1350, 1358-60 (Fed. Cir. 1984), cert. denied, 105 S.Ct. 95 (1984).

The Hirai Patent Defense

The threshold consideration underlying the viability of any Section 102 (or Section 103) invalidity defense involving

the Hirai patent is whether that patent can be considered as prior art to the '946 patent. The Court finds that the Hirai patent cannot be considered as prior art for the following reasons.

As indicated above (pp. 3-4, supra), under 35 U.S.C. § 119, the '946 patent is properly considered as having a U.S. filing date of December 7, 1974. The application for the Hirai U.S. patent, on the other hand, was filed in the United States some two months later on February 10, 1975.

Under ordinary circumstances, the foregoing application filing sequences would present a clear-cut case to the effect that Hirai is to be totally ignored for purposes of validity of the '946 patent. However, there is one additional fact which can tend to lead to confusion--this being that Hirai also [D.S.C. 45] claims for himself the priority under Section 119 of three earlier

filed Japanese applications filed in Japan in the period February-April, 1974,[31] and therefore before the '946 German priority application was filed in Germany. This added fact, on its face, would seemingly raise the anomalous question of whether Hirai is therefore to be considered for '946 reference purposes as carrying the reference date of its U.S. filing date, February 10, 1975 (which is subsequent to the '946 priority date of December 7, 1974), or to be considered as prior art because of its claimed Japanese priority filing dates, February-April, 1974 (which is prior to the '946 priority date).

This anomaly did in fact cause considerable confusion in U.S. Patent Office

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31. The fact that Hirai bases his priority on three Japanese applications simply means that he combined three Japanese applications into one U.S. application. **[N. 31 & 32 at D.S.C. 45]**

practice in the 1960's and 1970's until the U.S. Court of Customs and Appeals (the predecessor of the Court of Appeals for the Federal Circuit) resolved the matter in a trilogy of landmark decisions--In re Hilmer, 359 F.2d 859 (C.C.P.A. 1966) (Hilmer I), In re Hilmer, 424 F.2d 1108 (C.C.P.A. 1970) (Hilmer II), and In re McKellin, 529 F.2d 1324 (C.C.P.A. 1976).[32]

Hilmer I involved an appeal from a Patent Ofice decision rejecting Hilmer's application. The issue before the [D.S.C. 46] Hilmer I court was whether a U.S. patent to Habicht (filed in the U.S. on January 23, 1958, and entitled to priority as of its Swiss filing date of January 24, 1957) was prior art as to the Hilmer appli-

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32. Accord: Studiengesellschaft Kohle mbH v. Eastman Kodak Co., 616 F.2d 1315, 1337 (5th Cir. 1980), cert. denied, 449 U.S. 1014 (1980); In re Grasselli, 713 F.2d 731, 739 (Fed. Cir. 1983).

cation (filed in the U.S. on July 25, 1958, and entitled to priority as of its German filing date of July 31, 1957). As can be seen, Hilmer's date of invention (i.e., his German filing date under Section 119) was prior to Habicht's U.S. filing date, but after Habicht's foreign (Swiss) priority date.

The pivotal holding of the court in Hilmer I was that "section 119 does not modify the express provision of section 102(e)[33] that a reference patent is effective as of the date the application

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33. 35 U.S.C. §102(e) in effect bars the issuance of a patent where "the invention was described in a patent granted on an application for patent filed in the United States before the invention thereof by the applicant for patent or on an international application by another who has fulfilled the requirements of paragraphs (1), (2) and (4) of Section 371(c) of this title before the invention thereof by the applicant for patent."
[N. 33 at D.S.C. 46]

for it was 'filed in the United States'." 359 F.2d at 861. Therefore, for prior art purposes, the Habicht patent was to be considered as having a date subsequent to Hilmer, and therefore not a part of the prior art.

As can be seen, the factual relevant filing sequences presented in Hilmer I are identical to those presented here by Hirai and '946, and accordingly, under Hilmer I, Hirai is not prior art under Section 102(e). [D.S.C. 47]

In 1970, the Hilmer case came before the Court of Customs and Patent Appeals once again (Hilmer II). As background to Hilmer I, an interference had been declared between the Habicht and Hilmer applications, and Habicht had prevailed as to the count (claim) which was the subject of the interference. Hilmer I had then decided that all of the disclosures of the Habicht

interfering patent were not prior art as to Hilmer under Section 102(e). Hilmer II involved an appeal from a further rejection on another ground by the Patent Ofice after the Hilmer I remand. The issue in Hilmer II was whether the subject matter of the claim lost to Habicht in the interference was prior art as to the Hilmer application under 35 U.S.C. § 102(g).[34]

The Patent Office had reasoned that the claim lost in the interference was prior art by virtue of being "prior invention" under Section 102(g), and Section 119 altered the "in this country" limitation of Section 102(g). The court disagreed. As in the case of Hilmer I and Section 102(e),

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34. Section 102(g) in effect bars the issuance of a patent where "before the applicant's invention thereof the invention was made in this country by another. . . ." [Emphasis added]. **[N. 34 at D.S.C. 47]**

the Hilmer II court stated "§ 119 does not remove the limitation of § 102(g) found in the phrase 'in this country'." 424 F.2d at 1112.

The last case in the trilogy, McKellin, put the entire prior art issue to rest, once and for all. McKellin had lost an interference with a patent to Maltha under facts similar to those in Hilmer I and Hilmer II. Thereafter, [D.S.C. 48] McKellin inserted into his application new claims which the Patent Office viewed as "either fall[ing] within the scope of the invention defined by the [lost interference] counts or obvious variations thereof." 529 F.2d at 1326. Thus, the Patent Office was now taking the position that even though a Habicht-type (Hirai-type) patent was not prior art under Section 102(e) (Hilmer I), or under Section 102(g) (Hilmer II), the lost interference

count could be used under Section 103 (obviousness) to bar issuance of claims in the loser's application directed to obvious variants of the lost count. Once again, the Patent Office's attempt to use a Habicht-type (Hirai-type) reference as prior art in respect to the patentability of claims in a Hilmer-type ('946-type) application was rejected by the Court of Customs and Patent Appeals, and the McKellin court made it clear that a Habicht-type (Hirai-type) reference could not be considered prior art for any purpose. Thus, the Court finally made it absolutely clear that a Habicht-type (Hirai-type) reference must be considered as a reference only as of its U.S. filing date.

Applying this trilogy of cases to the case at bar, this Court concludes that Hirai is not prior art for purposes of

Section 102(e) (Hilmer I); nor Section 102(g) (Hilmer II); nor Section 103; nor for any other purpose under the facts presented here (McKellin). Moreover, squarely in accordance with this trilogy, even if there had been an interference between Hirai and '946[35] involving only claims of Hirai as interference counts, [D.S.C. 49] and even if priority based upon effective dates had been awarded to Hirai, such award of priority would not have raised Hirai to the status of prior art in respect to the '946 claims not involved in such interference. McKellin, supra.

Conceding the applicability of the Hilmer I and II, McKellin trilogy under circumstances where the '946 patent is en-

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35. Which there was not, but which defendants argue that there should have been.
[N. 35 at D.S.C. 48]

titled to its December 7, 1974 German priority date under Section 119 [Parkhurst Tr. 5:131-132], defendants nevertheless urge that Hirai is an invalidating prior art reference against the '946 patent because the two patents contain "interfering" claims directed to the same invention, and that by electing not to invoke an interference, plaintiffs have elected Hirai as the patent entitled to the priority as between the two patents.

In support of their argument that claims of the patents "interfere," defendants point to method Claim 1 of Hirai and urge that this claim claims the same invention as that claimed in apparatus Claim 18 of '946 (the only '946 claim in issue), as well as method Claims 7 and 12 (not in issue) [Parkhurst Tr. 5:40-53].

The evidence does not support this proposition. In the first place, Hirai

Claim 1 specifically calls for the step of "removing the fiber thus supplied from inside of the rotor <u>together with the dust and dirt collected in the rotor</u>." [DX 10]. It is well known in the OES art that dust and dirt tend to collect in the groove of the rotor with such tenacity that it is not necessarily removed by the normal vacuum [D.S.C. 50] currents utilized for the yarn forming operation [PX 334, PX 334A at pp. 16-17]. To cope with this collected dust and dirt, Hirai teaches that this cleaning can be accomplished by "positively cleaning the inside of the rotor," [DX 10 at col. 1, line 68-col. 2, line 2] by injecting a jet of compressed air into the rotor groove to clean the same during the piecing sequence [F. Stahlecker Tr. 2:128]. This positive cleaning step to remove the dust and dirt, which is explicit in the above-quoted Hirai claim, is nowhere

mentioned or taught in the '946 patent as an integral step in the piecing operation, and is nowhere recited in Claim 18 of '946. Further, Claim 18 of '946 calls for means for supplying a vacuum to the spinning rotor prior to starting the rotor to remove fiber supplied to the rotor up to that time. Hirai Claim 1 is totally silent on this score, and moreover, if Figure 3 of Hirai is to be interpreted as a timing sequence, as defendants urge it should be [Parkhurst Tr. 5:167], then there is positive pressure (rather than vacuum) present in Hirai's rotor until after his rotor reaches a speed of about one-third (20,000 rpm) of its operating speed (60,000 rpm) [DX 10 at col. 2, lines 3-7, and FIG. 3]. Under these conditions (i.e., the vacuum is not effective until the rotor reaches a speed of 20,000 rpm), such vacuum would not remove the fiber supplied up to that time,

as required in '946 Claims 7, 12 and 18, because of the centrifugal forces exerted on the fibers by the rotating rotor which would hold the fibers in the rotor with a stronger force than that exerted by the vacuum [Parkhurst Tr. 5:167-172; F. Stahlecker Tr. 2:127-131; PX 380, PX 381, PX 382]. [D.S.C. 51]

As to defendants' contention that Hirai Claim 1 also "interferes" with '946 method Claims 7 and 12, these claims differ from Hirai Claim 1 for essentially the same reasons as outlined above in respect to apparatus Claim 18 [Parkhurst Tr. 5:161]. Further, the base claims (Claims 6 and 11) from which these claims respectively depend contain preambles which include the phrase, "comprising the sequential steps of" [underlining added; PX 202, col. 8, lines 19-20 and lines 59-60]. Such phraseology imbues these claims with a limited scope

not contemplated by Hirai Claim 1 in that the method steps thereafter recited in the claims must be carried out in the sequence exactly as recited [Witherspoon Tr. 6:41-42].

Secondly, a close analysis of the whole of the Hirai and '946 patents shows a clear difference in the inventions contemplated by the respective patent disclosures.[36] More specifically, while both patents deal with piecing up on OES machines, and both disclose starting and stopping the sliver feed during the piecing sequence, the similarity ends there. In Hirai, the problem posed, and purportedly solved, by the

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36. While certainly not binding on this Court, it is worth noting that the German Patent Office has recognized the difference also, by granting the German version of the '946 patent over the German version of Hirai [Dauster Tr. 6:14-17; PX 402A, PX 402B].
[N. 36 at D.S.C. 51]

inventor is the elimination of shortened or damaged fibers being carried into the yarn piecing point when a new piecing is made, since such fibers have a "density and length" different from those supplied during normal spinning operations, and as such "will result in failure [D.S.C. 52] or formation of an uneven joint in the spun yarn." [DX 10 at col. 1, lines 36-37]. In order to avoid this problem, Hirai teaches that the piecing sequence should always involve a removal of the shortened or damaged fibers from the system, and that this can be accomplished by feeding new sliver into the system at the start of the piecing sequence which, in turn, will cause the shortened or damaged fibers to go into the rotor where they will be discharged therefrom by a compressed air stream [ibid., col. 1, lines 38-65]. Thus, Hirai's concern is one of the quality of the fibers to

be carried into the piecing point--i.e., the absence of shortened or damaged fibers.

In contrast, the '946 patent is concerned with the overall uniformity of the piecing points at both the same spinning position and between different spinning positions [PX 202 at col. 1, lines 52-56], and the stated key to the invention is "the realization that the sliver feed can only actually be precisely controlled if it can be assumed that the fiber tuft offered to the opener roller at the beginning of the sliver feed prior to the start-spinning operation is always the same" [ibid., col. 2, lines 9-12]. To this end, the '946 patent teaches that the same quantity of fiber should always be fed in each piecing sequence, and that this can be accomplished by producing, prior to every start-spinning operation "a precisely defined fiber tuft"

[ibid., col. 2, line 28] which will, with controlled timing, permit precise control of the quantity of fibers fed to the rotor to form the ring of [D.S.C. 53] fibers therein. As a result, "The ring of fibers on which the return end of the thread is placed is thus formed only by the fibers supplied in the controlled sliver feed operation" [emphasis supplied] [ibid., col. 4, lines 22-25; PX 376-1, PX 376-2; F. Stahlecker Tr. 1:137-142]. These distinctions in '946 over the Hirai patent go to the heart of the true merit of the '946 invention in that they provide the key to achieving uniform piecing points and thus the key to practical and commercially successful automated piecing.

Thirdly, the file wrappers of both the Hirai [PX 403] and '946 [DX 2a] patents show that the Patent Office Examiners handling the respective applications each

conducted an interference search prior to issuance of the patents. In so doing, the Hirai Examiner conducted a search for pending interfering applications or patents in the area where the '946 application was pending, and the '946 Examiner at a later point in time conducted a similar search in the area where the Hirai patent (by then issued) was classified. Moreover, the '946 file wrapper [DX 2a] shows that, after completion of the examination by the Patent Examiner, the application was selected for review, reviewed, and approved, by a group in the Patent Office whose responsibility it is to review on a random basis the quality of examination by the Patent Examiner [Witherspoon Tr. 6:40-41]. While not conclusive, the foregoing evidence of the completeness in the examining procedure is certainly suggestive of a positive determination by the Patent Office that

Hirai and '946 do not interfere. [D.S.C. 54]

In summary, the Court finds that the inventions described respectively in the '946 and Hirai patents are significantly different, and that Claims 7, 12 and 18 of '946 are patentably distinct from, and do not "interfere" with, Claim 1, or any other claim, of the Hirai patent.

With the appropriateness of an interference out of the picture, defendants, theory of "election" becomes moot. However, even if the two patents could have been drawn into interference, thereby giving rise to the opportunity for plaintiffs to elect Hirai for priority purposes, the evidence does not support any finding that plaintiffs elected Hirai or committed any acts tantamount to such an election. Indeed, defendants' relevant actions have been quite consistent in the position that

Hirai was not the first inventor of the subject matter claimed in his patent. For example, when the plaintiffs, Hans and Fritz Stahlecker, first learned of the Hirai patenting activity, Hans Stahlecker immediately sent a telex [PX 226, p. 1] to Hirai's employer, Murata, complaining of this action and pointing out that the relevant idea of starting and stopping the sliver feed during piecing originated with Fritz Stahlecker, not Hirai. This position was tacitly, if not explicitly, confirmed by Murata's response [PX 226, p. 2] which said, in effect, that Hans Stahlecker's views were "respected." Additionally, after plaintiffs acquired the Hirai patent in 1984, they disclaimed the patent [PX 370] -- an act totally inconsistent with any election of the Hirai patent as having the priority. [D.S.C. 55]

The Double Patenting Defense

The doctrine of double patenting deals with attempts by patentees (or common assignees) to claim the same subject matter in more than one patent. The primary purpose of this judicially created doctrine is to prevent a timewise extension of the statutory period of monopoly that would occur if successive patents were allowed on the same invention to the same inventors or patent owners. 3 Chisum, Patents § 9.01.

Since the doctrine is applicable to situations involving issuance of patents to common inventors or assignees, neither of which was the case at the time of issuance of the Hirai and '946 patent, it is questionable whether it has any applicability whatsoever to this case. However, defendants urge that a double patenting situation arose when plaintiffs, as owners of the '946 patent, acquired the Hirai

patent in 1984, some seven years after the two patents issued. Whether there is, or should be, a doctrine of "retroactive" double patenting is an issue which need not be addressed here, since for reasons hereinafter stated, there is no viable double patenting defense in this case.

In a line of cases beginning in 1964,[37] the United States Court of Customs and Patent Appeals developed a [D.S.C. 56] distinction between two types of double patenting. The first type (Type I) arises in situations where an applicant seeks a second patent for the same invention

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37. In re Avery, 518 F.2d 1228 (C.C.P.A. 1975); In re Vogel, 422 F.2d 438 (C.C.P.A. 1970); In re White, 405 F.2d 904 (C.C.P.A. 1969); In re Eckel, 393 F.2d 848 (C.C.P.A. 1968); In re Braithwaite, 379 F.2d 594 (C.C.P.A. 1967); In re Kaye, 332 F.2d 816 (C.C.P.A. 1964); In re Robeson, 331 F.2d 610 (C.C.P.A. 1964). [N. 37 at D.S.C. 55]

claimed in his first patent. Under this type of double patenting, the rationale is that the second patent cannot issue because of the express language of 35 U.S.C. § 101. The second type of double patenting (Type II) arises in situations where the applicant seeks a second patent for a different invention which invention is nothing more than an obvious variant or modification of what is claimed in the first patent. 3 Chisum, Patents § 9.03[3]. In Type I double patenting, "same invention" means identically the same invention, In re Eckel, 393 F.2d 848 (C.C.P.A. 1968); In re Vogel, 422 F.2d 438, 441 (C.C.P.A. 1970), and defendants concede, and the Court so finds, that there is no such claim identity in the Hirai and '946 patents, and that Type I double patenting is not applicable here [Parkhurst

Tr. 5:160-162; see also generally, Witherspoon Tr. 6:42-46],

Defendants nevertheless urge that the asserted Claim 18 of the '946 patent, as well as Claims 7 and 12 which have not been asserted, claim an obvious variant of Claim 1 of Hirai, and that '946 is therefore invalid because of Type II double patenting. The Court disagrees. In the first place, there is no factual basis for such a finding--both '946 method Claims 7 and 12, as well as apparatus Claim 18, call for supplying a vacuum to spinning rotor prior to starting the rotor to remove any unknown quantity of fiber supplied up to [D.S.C. 57] that time during the piecing sequence. This concept is one of the keys to obtaining piecing points of consistent quality in the invention of the '946 patent in that the removal of the unknown quantity of fiber in the system is a prerequisite to

establishing control over the quantity of fibers in the fiber ring to be incorporated into the new piecing point [F. Stahlecker 1:137-141]. In the second place, there is no legal basis for such a finding, since the Hirai and '946 patents now contain the same expiration date due to the terminal disclaimer [DX 35] filed in respect to the '946 patent disclaiming the remaining term of that patent beyond May 10, 1994, the date of expiration of the Hirai patent. This terminal disclaimer totally eliminates the timewise extension of any monopoly, and therefore obviates Type II double patenting. In re Vogel supra, at 441-2; see also: In re Bowers, 359 F.2d 886 (C.C.P.A. 1966) (Terminal disclaimer successfully used in a common assignee situation).

Defendants argue that a terminal disclaimer in commonly owned patents cannot cure a Type II double patenting situation.

In support of their position they rely upon § 804.03 of the Manual of Patent Examining Procedure of the United States Patent and Trademark Office. As recently held by the Court of Appeals for the Federal Circuit, this position is "meritless":

> Appellants respond to this suggested use of a disclaimer by citing MPEP [Manual of Patent Examining Procedure] § 804.03 for the proposition that terminal disclaimers are not [D.S.C. 58] applicable to commonly-owned applications made by different inventive entities. The Solicitor also candidly points us to the related Commissioner's Notice on Double Patenting (834 O.G. 1615, January 9, 1967) which states in relevant portion:
>
> > The term "double patenting" is properly applicable only to cases involving two or more applications and/or patents of the same inventive entity and should not be applied to situations involving commonly owned cases of different inventive entities.
>
> Appellants argue, therefore, that a terminal disclaimer would be ineffective. However, this court has never approved this guideline, and such a requirement is inconsistent with many of our predecessor's decisions. See, e.g. In re Rogers, 394 F.2d at 567, n.

> 4, 55 C.C.P.A. at 1094, n. 4, 157 USPQ at 571 (citations omitted); and In re Frilette, 412 F.2d 269, 56 C.C.P.A. 1262, 162 USPQ 163 (1969). In fact, the examiner here invited appellants' assignee, which declined, to file a terminal disclaimer in order to overcome the rejection. We have held that the Double Patenting Notice, supra, is only a procedural memorandum which merely sets forth guidelines for the Patent and Trademark Office, and that were those guidelines are not even applied, as in the instant case, they can have no bearing on the outcome. In re Newton, 414 F.2d 1400, 56 C.C.P.A. 1463, 163 USPQ 351 (1969). In short, appellants' argument in this regard is meritless. [Footnote omitted].

In re Longi, et al 759 F.2d 887, 894 (Fed. Cir. 1985).

Other Section 102 and Section 103 Invalidity Defenses

Defendants' remaining § 102 (anticipation) and § 103 (obviousness) invalidity defenses in respect to Claim 18 of the '946 patent focus on (1) defendants' own prior art RK 10 OES machine and (2)

plaintiffs' own earlier U.S. Patent No. 3,987,610.

[D.S.C. 59]

Defendants' RK 10 machine is a conventional OES machine of the type in use prior to the effective date of the '946 patent. Defendants, however, urge that it incorporated one added feature which makes the machine additionally pertinent to the '946 patent--namely, a red feed button located on the cover of the spin box and operatively connected to the sliver feed mechanism for activating the sliver feed at will. The purpose of this red button, according to defendants' RK 10 operation manual [PX 28] is to permit the operator to operate the sliver feed when initially starting up a spinning position to feed a new end of sliver through the feed rolls and to the combing roll, and there is nothing in this manual to suggest the use

of the button to prefeed the sliver during the piecing operation [Beuthien Tr. 4:171-172; PX 33]. However, in practice, there is testimony that when the RK 10 machines were introduced into the United States in June 1973 to a customer, Har-Ray Mills, Schubert & Salzer personnel instructed the operators at Har-Ray to press the feed button for a period of between one-half and one second during the hand-piecing sequence [Beuthien Tr. 4:143-144, 166]. The stated purpose of this procedure, according to defendants' witness was (1) to remove damaged fibers and (2) to ensure that the sliver was not choked in the opening roller housing [Beuthien Tr. 4:144-145]. Defendants further offered the testimony of two operators to the effect that it was their practice at Har-Ray Mills in Grover, North Carolina, commencing in June of 1973, **[D.S.C. 60]** to piece up ends in a commer-

cial operation in this recommended manner. Actual demonstrations of the procedure were recreated by these operators on RK 10 machines located at Auburn University, at Auburn, Alabama, which demonstrations were recorded on videotape and received in evidence [DX 88; see also PX 365A, PX 365B, PX 366A, PX 366B; Lord TR. 2:9-17].

Accepting as prior art this Har-Ray hand-piecing procedure, the Court finds that it does not anticipate Claim 18 of the '946 patent under 35 U.S.C. § 102. In order for a single item of prior art to anticipate, it must be established that it alone discloses expressly, or inherently, each and every element of the claimed invention. Furthermore, where the elements of the claimed invention are expressed in terms of a means plus function, the reference (here, the hand-piecing procedure and RK 10 machine being operated) must

involve structure which is capable of performing the functional limitation of the recited means. RCA Corp. v. Applied Digital Data Systems, Inc., et al, 730 F.2d 1440, 1444 (Fed. Cir. 1984), cert. dismissed sub nom.,Hazeltine Corp. v. RCA Corp., 105 S.Ct. 32 (1984). See also: Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Company, et al, 730 F.2d 1452, 1458 (Fed. Cir. 1984). Moreover, anticipation requires a teaching with respect to the "entirety of the claimed invention" in a single reference, and it is not shown even if the differences between the claim and the prior art reference are "insubstantial," and the missing elements could [D.S.C. 61] be supplied by the knowledge of one skilled in the art. Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707 (Fed. Cir. 1984).

The "entirety" of the invention as set forth in Claim 18 of the '946 patent is an apparatus for thread piecing including a combination of means plus recited functions for such means. While some of the claimed means with their claimed functions[38] are present in the RK 10 machine, such machine with its operator is not "an apparatus for threadpiecing," as called for in the preamble of the claim. Moreover, nowhere is there to be found the following claimed means plus function.

> fiber supply preparing means for preparing said spinning assembly for a piecing operation prior to movement of said spinning rotor from its stopped position, said fiber supply preparing means including means for starting and operating said feeding means for a period of time and then stopping said feeding means, said starting and stopping being accompanied by a continuously operating opening means, whereby

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38. E.g., the opening means, feeding means and rotor control means.
[N. 38 at D.S.C. 61]

> uniform fiber tufts are arranged at said sliver feeding means to accommodate said piecing operating to be subsequently performed.

The above-quoted language from Claim 18 clearly calls for some mechanism capable in and of itself of preparing the spinning assembly for piecing so that consistency can be achieved and maintained to form uniform fiber tufts. The recognition and realization by the '946 inventors that the formation of uni-[D.S.C. 62]form fiber tufts in an apparatus environment which can provide a consistently timed sequence of events leading to piecing is the most significant aspect of the invention and its advance over the prior art--the key to obtaining piecing point uniformity. Piecing point uniformity is not in any way achieved on the RK 10 where the piecing operation, including the use of the feed button, is carried out by hand. This is

clearly demonstrated in comparative piecings made on the RK 10 by the Har-Ray operators [PX 365A, PX 366A] versus piecings made on the infringing apparatus embodying the claimed invention [PX 364A; Lord Tr. 2:9-17].

The basis for defendants' obviousness defense under § 103 is similar to that of their § 102 defense, except they add to the prior art equation the teachings of plaintiffs' own U.S. Patent No. 3,987,610. The '610 patent[39] is directed to the same general automatic piecing apparatus of the type disclosed in the '946 patent, except that there is no teaching of providing a "fiber supply preparing means," with its

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39. The relevant subject matter of which is disclosed in the '946 specification at col. 1, line 44 by reference to one of the inventors' German priority applications [F. Stahlecker Tr. 2:133]. **[N. 39 at D.S.C. 62]**

attendant claimed function, and no recognition whatsoever that with such means, uniform fiber tufts can be obtained and thereby lead to uniform piecing points [F. Stahlecker Tr. 2:96, 98; Bartlett Tr. 4:43]. As stated previously, the other prior art reference (RK 10 as operated at Har-Ray) does not supply this [D.S.C. 63] missing teaching [See Bartlett Tr. 3:103; F. Stahlecker Tr. 2:99]. Accordingly, the Court finds that these combined teachings do not teach, suggest or render obvious the '946 invention.

Moreover, the record is replete with objective evidence of nonobviousness. Graham v. John Deere Co., 383 U.S. 1 (1966); Environmental Designs, Ltd. v. Union Oil Co. of Cal., 713 F.2d 693, 695

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40. [N. 40 omitted from the final court Opinion.]

(Fed. Cir. 1983), cert. denied, 104 S.Ct. 709 (1984); Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 894 (Fed. Cir. 1984), cert. denied, 105 S.Ct. 187 (1984). For example, the claimed apparatus produces new and unexpected results--to wit: quality piecing points heretofore unobtainable in prior art apparatus or by prior art methods. The piecing points obtained in the Auburn trial re-creating the Har-Ray RK 10 method [PX 365A, PX 366A] are in no sense uniform, and for quality purposes would have to be removed from the yarn and replaced with knots. In contrast, the piecing points obtained with apparatus incorporating the '946 invention are, by comparison, quite uniform and acceptable for quality

purposes.[41] See: Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Company, et al, 730 F.2d 1452, 1461 (Fed. Cir. 1984) ("evidence of unexpected results may be strong support for a conclusion of nonobviousness"). **[D.S.C. 64]**

Additionally, the already noted commercial success of, and fulfillment of, a long-felt need by Suessen's Spincat/ Cleancat development cannot be ignored. The world's leading manufacturer of OES machines, Schlafhorst, uses the invention on its machines, of which it has sold over 850 (163,200 spindles) in the United States alone [supra at p. 14]. See: Simmons Fastener Corp. v. Illinois Tool Works,

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41. From Schlafhorst machines [PX 363, F. Stahlecker Tr. 1:123-126] as well as defendants' infringing Spincomat machines [PX 364A; Lord Tr. 2:9-17]. **[N. 41 at D.S.C. 63]**

Inc., 739 F.2d 1573, 1575-1576 (Fed. Cir. 1984), cert. denied, 105 S.Ct. 2138 (1985) (Even a prima facie case of obviousness outweighed by strong evidence of commercial success).

Further, defendants' already noted own contemporaneous actions constitute mute testimony of their own recognition of the nonobviousness of the '946 invention--initial skepticism at first, followed by the formation of a task force and six years of active, but futile, effort to develop successful automation, the seeking of outside help from the textile institute at Reutlingen, and, ultimately, the adoption and copying of plaintiffs' invention [supra at pp. 17-20]. See: United States v. Adams, 383 U.S. 39, 43-44, 52 (1966).

Finally, although defendants, who bear the burden of proof with respect to obviousness, offered no evidence with

respect to the standard of skill which should be applied to the "person of ordinary skill" under 35 U.S.C. § 103, the reaction to automated piecing of those who actually toiled in the prior art making hand piecings is noteworthy. The two witnesses proffered at trial to demonstrate the prior art, as practiced at Har-Ray [D.S.C. 65], both testified that they did not even know what the term "fiber tuft" or "fiber beard" meant; that they never knew how much fiber was in the rotor during the piecing sequence; that their reason for pushing the red button was to make sure that the sliver was not choked or lapped; and that their first impression of an automatic piecer (the defendants' accused infringing Spincomat) was that it was "amazing." [Jennings Tr. 4:201; Robinson Tr. 4:203, 205, 210-211].

> To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.
>
> It is difficult but necessary that the decision-maker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art. Had that been here done the inventions set forth in the claims 3 and 19 of the '566 patent could only have been held non-obvious to those skilled in the art at the time those claimed inventions were made.

W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983), cert. denied, 105 S.Ct. 172 (1984).

In conclusion, defendants have failed to carry their burden of demonstrating that Claim 18 of the '946 patent is invalid,

either for anticipation under 35 U.S.C. § 102, or for being obvious to a person of ordinary skill in the art at the time the invention was made under 35 U.S.C. § 103.

[D.S.C. 66]

B. The '370 Patent

Defendants argue that all of the asserted claims of the '370 patent[42] are invalid under 35 U.S.C. § 102 (anticipation) or 103 (obviousness), because all of the elements of each one of the claims are shown in the prior art--in many instances in a single reference--namely, U.S. Patent No. 4,107,957. As to those claims which do not respond exactly to the elements shown in the '957 patent, they urge that there is simply a

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42. Independent Claim 1 and dependent Claims 2-7, 9-13 and 18-20.
[N. 42 at D.S.C. 66]

substitution of another type of deflection element as shown in one or more of U.S. Patents Nos. 3,987,610; 3,950,926; 3,842,579; 4,125,989 and 4,083,171 [Parkhurst Tr. 5:113-114; DX 107].

The evidence does not support the proposition that all the elements of any '370 claim are shown in the prior art '957 patent. This patent is directed to a mobile piecing device for an OES machine and is a Fritz Stahlecker predecessor of his '370 patent in suit. While it does show, in combination with an OES machine, a piecing device having (1) auxiliary spool drive means for driving the spool on the OES machine during piecing operations, and (2) auxiliary yarn guide means for guiding the yarn between the spool and the yarn outlet of the spinning assembly during piecing, and while it further recognizes that a speed differential is created in the

yarn immediately after piecing between the yarn outlet and the yarn package take-up [D.S.C. 67], the similarity between this prior art reference and the '370 claimed invention ends there. In the '957 patent, it is suggested that any excess yarn in the yarn path (1) be accommodated by deflecting the yarn path with a separate deflection lever to form a loop in the yarn, or (2) be eliminated by driving the yarn package roll more rapidly. [DX 69 at col. 7, lines 45-55]. This first solution proposed in '957 patent for solving the problem--accommodation by deflection to form a loop--is totally different from the claimed invention of the '370 patent which is directed to reducing the formation of the loop [F. Stahlecker Tr. 2:50, 54-59]. This second proposed solution--driving the package drive roll more rapidly--would only produce more slippage and in no way solve the

problem addressed by the '370 patent [F. Stahlecker Tr. 1:149].

The remaining prior art references relied upon defendants to show obviousness under 35 U.S.C. § 103 [DX 107] are merely duplicative of the teachings of the '957 patent in that they do not teach the concept of reducing the formation of a loop, but show only other forms of yarn deflection means to accommodate a yarn loop formed during a piecing operation [Parkhurst 5:206-218].

Central to the teachings of the '370 patent in suit is the revelation that, because of the existence of twist in the yarn, kinks tend to form in any excess yarn loops, and these kinks create problems when they are wound up onto the yarn package. Thus, in order to avoid the risk of forming these [D.S.C. 68] kinks, the patent teaches that the kink problem can be solved by the

provision of means to reduce the formation of the excess yarn loop which is the causal factor in the undesirable kink problem [F. Stahlecker Tr. 1:144-145]. The technique specifically proposed in the '370 patent for achieving this reduction in loop formation is the provision of means for reducing slippage between the auxiliary spool drive roll and the spool itself, along with means to add a soft tension to the yarn so as to prevent any kinks from forming in any small yarn loop which may nevertheless be formed during the yarn acceleration phase due to the fact that the means for reducing the slippage might not be totally effective [PX 213 at col. 6, lines 3-21; F. Stahlecker Tr. 1:145-147; Bartlett Tr. 3:52]. This technique manifests itself in all of the '370 claims in the means plus function recitation in the base Claim 1:

> . . . control means for controlling the course of the yarn between the auxiliary driven feed means and the spool so as to reduce formation of a loop in the yarn during acceleration of the drawing off of the yarn during piecing. [Emphasis added].

There is no evidence in the record presented here that any of the devices of the prior art relied upon by defendants contain any structure for functioning to reduce formation of a loop and preventing the undesirable curling or kinking of the yarn during the acceleration phase. Cf., RCA Corp. v. Applied Digital Data Systems, Inc., et al, supra, at p. 1444. At most, defendants' expert, with the full benefit of the [D.S.C. 69] hindsight afforded by the teachings of the '370 patent, could only speculate that "They might have that effect." [Parkhurst Tr. 5:100]. Manifestly, the prior art must be read without the benefit of the patentee's own invention disclosure. In re Sponnoble, 405 F.2d 578,

585 (C.C.P.A. 1969); W. L. Gore & Associates, Inc. v. Garlock, Inc., supra, at p. 1553.

Lacking such evidence, defendants have failed to carry their burden under 35 U.S.C. § 282 of proving invalidity of the claims of the '370 patent, a burden "made heavier" by the fact that the '957 patent, touted by defendants as a full anticipation, and accordingly, the most pertinent prior art [Parkhurst Tr. 5:102], was considered by the Patent Office during the examination of the '370 patent [Parkhurst Tr. 5:93, 115]. Fromson v. Advance Offset Plate, Inc., 755 F.2d 1549, 1555 (Fed. cir. 1985).

VII. THE '946 AND '370 UNENFORCEABILITY DEFENSES

Defendants contend that both patents in suit are unenforceable because of "fraud on

the Patent Office," or as more recently termed by the Court of Appeals for the Federal Circuit, "inequitable conduct." J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc., 747 F.2d 1553, 1559 (Fed. Cir. 1984). Specifically, they urge that plaintiffs failed to bring to the attention of the Patent Office material prior art known to them during the prosecution of the applications for the patents in suit.

[D.S.C. 70]

The material prior art alleged to have been withheld is, with respect to the '946 patent, (1) the hand piecing operation carried out on defendants' RK 10 OES machine (as re-created at Auburn University by Har-Ray employees, and recorded on videotape) [Parkhurst Tr. 5:77-78], and (2) U.S. Patent No. 3,987,610 [Parkhurst Tr. 5:83]. The allegedly withheld prior art with respect to the '370 patent is

(1) U.S. Patent No. 3,987,610 [Parkhurst Tr. 5:114], (2) certain language in cited U.S. Patent No. 4,107,957 [Parkhurst Tr. 5:114-115], (3) U.S. Patent No. 3,950,926 [Parkhurst Tr. 5:115], (4) U.S. Patent No. 3,842,579 [Parkhurst Tr. 5:117]; (5) U.S. Patent No. 4,125,989 [Parkhurst Tr. 5:117-118], and (6) U.S. Patent No. 4,083,171 [Parkhurst Tr. 5:118].

As to the hand piecing operation used on the RK 10 machine, there is no evidence that any of the '946 patentees or their attorneys had any prior knowledge of such operation. There is no relevant testimony on this point from any one of that group, except Fritz Stahlecker, who testified that, while he did see the RK 10 machine briefly from a distance at a trade show in Paris, he did not see its internal mechanisms or the red button for starting and stopping the sliver feed [F. Stahlecker Tr.

2:63, 66, 126]. And, there is not even a suggestion in the record that any of the inventors saw or knew about the RK 10 piecing operation as practiced at Har-Ray Mills.

As to U.S. Patent No. 3,987,610, vis-a-vis the '946 patent in suit, this is another Fritz Stahlecker patent. Its [D.S.C. 71] subject matter is actually referred to in the '946 specification at column 1, lines 39-56 [PX 202], and the application number of one of the German priority applications is given. This fact alone establishes a complete lack of intent to withhold information. Moreover, the '610 application was handled by the same Examiner (Donald Watkins) as the copending '946 application [Cf., DX 5, p. 1 and PX 202, p. 1], and therefore it should be assumed that the Examiner knew about it. See, Kimberly-Clark Corp. v. Johnson &

Johnson, 745 F.2d 1437, 1457 (Fed. Cir. 1984).

As to U. S. Patent No. 3,987,610 vis-a-vis the '370 patent, '610 was actually cited and made of record by the Examiner during the prosecution of the '370 patent application, and there is no evidence to indicate that the Examiner misunderstood its teachings as a reference. Lacking any such evidence, there was no duty on the patentee to recall '610 to the Examiner's attention after the Examiner had already ruled that the application patentably distinguished over the reference, since such reference would not have then been "material" within the meaning of 37 C.F.R. § 1.56 (Rule 56 of the Rules of Practice of the Patent and Trademark Office).

As to U.S. Patent No. 4,107,957, another Fritz Stahlecker patent, it was likewise cited by the Examiner during the

prosecution of the '370 patent application, and defendants acknowledge this. However, defendants argue that plaintiffs failed to call the Examiner's attention to some [D.S.C. 72] specific language of particular relevance appearing in column 7 of '957. It must be assumed that the Examiner is qualified to perform his duties, and, once again, there is no evidence that he misunderstood the teachings of this patent reference. Accordingly, there was no duty to recall it to the Examiner's attention after he had once cited it.

As to U.S. Patent No. 3,950,926, another Fritz Stahlecker patent, defendants' position is that this patent is material, but they admit that it is merely cumulative of the teachings of the '610 patent of record in the prosecution of the '370 patent [Parkhurst Tr. 5:115]. A merely cumulative reference is not a "material" reference for

purposes of an unenforceability defense. J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc., supra, at pp. 1559-1560.

Lastly, Patents Nos. 3,842,579, 4,125,989 and 4,083,171 are asserted to give rise to an inequitable conduct defense because they were known to the inventor or his attorneys. Each such patent is urged to contain examples of the well-known use of suction tubes to control tension and excess yarn in open-end spinning machines just before the take-up. And since that is specifically claimed in certain claims, defendants say that the references would have been material to the examination. [Parkhurst Tr. 5:116]. This position is not sustainable. Although the '370 specification does show in a specific embodiment the use of a suction nozzle as a yarn deflecting element, and although the Examiner cited no prior art references

specifically [D.S.C. 73] showing suction nozzles, the key issues of materiality and intent, for purposes of an inequitable conduct defense, are to be decided with reference to the claims of the '370 patent. Kimberly-Clark Corp. v. Johnson & Johnson, supra, at 1457. And defendants "have not shown that non-disclosure of [this] prior art would have had any effect on their allowance." Ibid. Only two of the twenty-one claims of the '370 patent even mention a suction nozzle, dependent Claims 7 and 20, and the nozzle is claimed in those claims as one type of a deflecting element, which in turn, is claimed in broader claims as only one element of the "control means plus function" recited in the base Claim 1. As already mentioned above, the Examiner did cite prior art showing deflecting elements (e.g., Patent No. 4,107,957), and ruled that the "370 claims were

patentable over such prior art. Therefore, further prior art showing nozzles as deflecting elements would have been merely cumulative of the prior art teachings already before the Examiner.

Additionally, even if the reference were to be deemed to have some materiality to the examination, such materiality is slight and not significant enough to carry defendants' burden of proving the required showing of threshold intent on the part of plaintiffs to withhold information material to the overall examination. J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc., supra. There is no evidence of any intent on the part of the inventors or their attorneys to purposely withhold these patents from scrutiny by the Examiner, and "simple negligence, [D.S.C. 74] oversight, or an erroneous judgment made in good faith, is

insufficient" to establish inequitable conduct. Ibid. at 1560.

In conclusion, defendants have not established by the evidence the necessarily thresholds of materiality and intent required to "determine as a matter of law whether the scales tilt to a conclusion that inequitable conduct occurred." Ibid. at 1560.

VIII. THE '946 IMPLIED LICENSE DEFENSE

Defendants contend that they have an implied license under the '946 patent in suit. Such license arises, they say, out of the facts (1) that they acquired an express paid-up license in 1982 from Murata under the Hirai patents, and (2) that the Suessen 1984 agreement with Murata [DX 27] to purchase the Hirai patents recognized defendants' right to practice the

technology embraced by the Hirai patents without interference from Suessen.

Analyzing this defense first from the standpoint of what rights defendants acquired from Murata in 1982 when they took a license under the Hirai patents, it is fundamental that defendants could not have acquired from Murata any rights greater than those which Murata had the right to grant. And Murata had nothing more than title to the Hirai patents--a right to exclude others from using the Hirai patents.

> A patent is not a grant of a right to make or use or sell. It does not, directly or indirectly, imply any such right. It grants only the right to exclude others. **[D.S.C. 75]**

Herman v. Youngstown Car Mfg. Co., 191 F. 579, 584 (6th Cir. 1911). Accord: Atlas Powder Co. v. E. I. du Pont de Nemours & Co., et al, 750 F.2d 1569, 1580 (Fed. Cir. 1984).

We move next to the 1984 Suessen/Murata agreement [DX 27] by which Suessen purchased from Murata all of the Hirai patents. There is nothing whatsoever in this agreement about the '946 patent, any patent corresponding to the '946 patent, or any technology specifically covered by those patents. Nor is there any language in the agreement that can be construed as a grant by Suessen of any right to practice any particular technology which might be covered by other Suessen patent rights. All this agreement does is to convey to Suessen the entire right, title and interest in all of the Hirai patents, with the express reservation to the effect that a nonexclusive license under these Hirai patents had already been granted by Murata to SSI, and with the express acknowledgment by Suessen that it would continue to recognize the existence of that license under

the Hirai patents. While this latter acknowledgment might seem redundant from the viewpoint of the law in this country (whereby a patent assignee under normal circumstances would be bound as a matter of law by its assignor's prior grant of a license to a third party), it served a clear purpose under German law since, as referred to above [pp.23-24, supra], the German High Court had recently handed down a ruling, the effect of which was that an existing nonexclusive right under a German patent could be defeated by an assignment of the patent by the owner to a third party. The net [D.S.C. 76] effect, therefore, of the 1984 Suessen/Murata agreement from defendants' standpoint, was that SSI was the beneficiary of a guarantee by Suessen that the nonexclusive rights under the Hirai patents granted to SSI by Murata in 1982 could not be taken away by

the new patent owner, Suessen. The enforcement of the '946 and '370 patents against the defendants in this litigation in no way affects that guarantee.

Beyond these two agreements, defendants offered no further evidence in support of the existence of any implied license--not even any testimony of defendants to the effect that they ever even thought they might have an implied license [Cf. Canzler Tr. 5:251-253], or that they were led to take or ever took any action upon reliance that they had rights under the '946 patent. As the Court of Appeals for the Federal Circuit stated in Bandag, Inc. v. Al Bolser's Tire Stores, Inc., 750 F.2d 903, 925 (Fed. Cir. 1984):

> Bolser's attempt to make out the defense of an implied license fails in a second respect.
>
> [T]he relatively few instances where implied licenses have been found rely on the doctrine of

> equitable estoppel . . . . One common thread in cases in which equitable estoppel applies is that the actor committed himself to act, and indeed acted, as a direct consequence of another's conduct. Thus, an implied license cannot arise out of the unilateral expectations or even reasonable hopes of one party. One must have been led to take action by the conduct of the other party.

Stickle v. Heublein, Inc., 716 F.2d 1550, 1559, 219 USPQ 377, 383 (Fed. Cir. 1983) (citations omitted). See also Radio Corp of America v. Andrea, 90 F.2d 612, 615, 34 USPQ 312, 314 (2d Cir. 1937) (terming the elements of estoppel the "controlling test").

[D.S.C. 77]

In conclusion, defendants have failed to meet their "burden of proving the establishment of an implied license." Ibid. at 924.

IX. WILLFUL AND DELIBERATE INFRINGEMENT

Where a potential infringer knows of the existence of patent rights of another, he has an affirmative duty to exercise due care to determine whether or not his is

infringing. This affirmative duty includes, among other things, the duty to seek and obtain competent legal advice from counsel before the initiation of possible infringing activity. Failure to exercise such duty, when viewed in the light of the totality of the circumstances, can constitute an exceptional case giving rise to a finding of willful and deliberate infringement justifying an award of increased damages under 35 U.S.C. § 284 and an award of reasonable attorneys' fees [under] 35 U.S.C. § 285. Underwater Devices, Inc. v. Morrison-Knudsen Co., 717 F.2d 1380, 1389-1390 (Fed Cir. 1983); Central Soya Co. v. George A. Hormel & Co., 723 F.2d 1573 (Fed. Cir. 1983); Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056 (Fed. Cir. 1983); King Instrument Corporation v. Otari Corporation, ____ F.2d ____, 226 U.S.P.Q. 402 (Fed. Cir. 1985).

The record here shows that the defendant German company fully appreciated the great significance of Suessen's Spincat development as early as 1975, when it was introduced, and spent the succeeding six or more years actively trying to engineer its [D.S.C. 78] own version of automated piecing [PX 4, PX 5, PX 8, PX 10, PX 13].

As early as 1980 before their design for automation was completed, defendants fully appreciated the novel and significant aspects of the time controlled fiber beard concept [PX 33] and its key role in the Spincat successful automation [supra at pp. 17-20]. And this appreciation led their German in-house patent counsel in 1980 to initiate a search for Suessen patent rights which should be considered [PX 31].

By 1982, defendants were still holding back from adoption of a prefeed to execute the time controlled fiber beard concept in

any commercial machine [Canzler Tr. 5:253], as they were fully aware of the fact that relevant patent rights were being claimed by both Suessen and Murata [PX 33]. As between the two, defendants further recognized that Suessen may have had the superior right [PX 33]. Thus, in 1982, defendants made a request for a license under Suessen's worldwide patent rights relating to the invention of the '946 patent [PX 14, H. Stahlecker Tr. 1:47-51; Canzler Tr. 5:249]. This request to Suessen for a license was denied [PX 15; H. Stahlecker Tr. 1:47-51]. Only after this denial did defendants then go out and obtain a license from Murata under the Hirai patents and commence their infringement of the '946 patent [Canzler Tr. 5:253]. In so doing, Schubert & Salzer never sought the advice of qualified counsel in the United States concerning the ramifications of such

acts in the United States. Rather, they relied [D.S.C. 79] solely upon guidance of the head of their own patent and license department in Germany who admittedly was not qualified to give opinions on United States patent matters [Canzler Tr. 5:255].

Weighing "the evidence of the totality of the surrounding circumstances," King v. Otari, supra, 226 U.S.P.Q. at 412, the Court finds that defendants have willfully and deliberately infringed the '946 patent, and that this is an exceptional case justifying an award of increased damages for infringement of the '946 patent and an award of reasonable attorneys' fees as to that portion of the case dealing with '946 patent issues.

X. CONCLUSION

Pursuant to Rule 52(a), Fed. R. Civ. P., this Order and Opinion constitutes the Court's findings of fact and conclusions of law on all issues presented for trial. The Court has considered the numerous issues raised by both plaintiffs and defendants in this action. That some issues or arguments may not appear to be specifically mentioned or addressed in this Opinion indicates only that, after due consideration, the Court found the issues or arguments to be without merit or of no consequence to the outcome of the case.

APPENDIX

ITEM 2.1

Trial Court Order Entered September 4, 1985

APPENDIX, ITEM 2.1
[Trial Court Order,
September 4, 1985]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
GREENVILLE DIVISION

SPINDELFABRIK SUESSEN -SCHURR, STAHLECKER & GRILL GmbH., HANS STAHLECKER, and FRITZ STAHLECKER,	)	
Plaintiffs,	)	
v.	)	Civil Action No. 83-2421-3
SCHUBERT & SALZER MASCHINENFABRIK AKTIENGESELLSCHAFT, and SCHUBERT & SALZER MACHINE WORKS, INC.,	)	
Defendants.	)	

[D.S.C. 79-80]

ORDER AND OPINION, INCLUDING
FINDING OF FACT AND CONCLUSION OF LAW

THEREFORE, IT IS ORDERED, ADJUDGED AND DECREED:

1. That plaintiffs' U.S. patents in suit, Nos. 4,059,946 and 4,175,370 are valid and enforceable;

2. That defendants have infringed plaintiffs' Patent Nos. 4,059,946 and 4,175,370;

3. That defendants be and they are hereby enjoined from manufacturing, using or selling in the United States their accused infringing "Spincomat" automatic piecing device, or any other apparatus embodying any invention claimed in the '946 or '370 patent, and from otherwise infringing, or inducing others to infringe, the '946 or '370 patent, and from otherwise infringing, or inducing others to infringe, the '946 or '370 patent in suit;

4. That plaintiffs be awarded their damages for prior infringement of the patents in suit, including interest, the amount of damages with respect to the '946 patent infringement to be increased up to three times the amount found or assessed;

5. That plaintiffs be awarded reasonable attorneys' fees attributable to that portion of the suit dealing with the '946 patent issues;

6. That plaintiffs be awarded their costs;

7. That upon application of the plaintiffs, the cause shall be set for determination of the issue of the amount of plaintiffs' damages and reasonable attorneys' fees in a subsequent trial of these issues to be set by this Court.

AND IT IS SO ORDERED

Attorneys for Plaintiffs:

Fletcher C. Mann, Sr.
LEATHERWOOD, WALKER, TODD & MANN
Post Office Box 87
Greenville, South Carolina 29602
(803) 242-6440

Charles B. Park, III
Michael D. McCoy
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Post Office Drawer 34009
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Attorneys for Defendants:

Julian W. Dority
DORITY & MANNING
409 Pettigru Street
Greenville, South Carolina 29601
(803) 271-1592

APPENDIX

ITEM 2.2

Trial Court Order entered

September 30, 1985

[Signed September 27, 1985]

APPENDIX, ITEM 2.2
[Trial Court Order,
September 30, 1987]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
GREENVILLE DIVISION

SPINDELFABRIK SUESSEN-SCHUR, STAHLECKER & GRILL GmbH., HANS STAHLECKER, and FRITZ STAHLECKER,	)	
Plaintiffs,	)	ORDER
v.	)	
SCHUBERT & SALZER MASCHINENFABRIK AKTIENGESELLSCHAFT, and SCHUBERT & SALZER MACHINE WORKS, INC.	)	
Defendants.	)	

C.A. NO. 83-2421-3

On September 4, 1985, this Court entered a final Order in the above action enjoining Defendants from making, using, or selling their adjudged infringing Spincomat Automatic Piecer, or from otherwise infringing the Plaintiff's patents in suit. Defendants' have now moved the Court for clarification of that Order in respect as to whether they would be permitted to

demonstrate their adjudged infringing Spincomat at the American Textile Exhibition-International scheduled to be held in Greenville, South Carolina, on October 17-25, 1985.

Upon due consideration of the law and facts, the Court finds:

1. That such a demonstration of the Spincomat would constitute infringement of the Plaintiff's patents, and thus violate the existing injunction; and,

2. That Defendants are not entitled to any modification of the terms of that injunction, and Defendants' motion is accordingly denied.

IT IS SO ORDERED.

G. Ross Anderson, Jr.

United States District Court

Judge

September 27, 1985 (signed)

September 30, 1985 (entered)

APPENDIX

ITEM 2.3

Trial Court Order filed October 23, 1985

APPENDIX, ITEM 2.3
[Trial Court Order,
October 23, 1985]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
GREENVILLE DIVISION

SPINDELFABRIK SUESSEN -SCHURR, STAHLECKER & GRILL GmbH., HANS STAHLECKER, and FRITZ STAHLECKER,	)	
Plaintiffs,	)	
v.	)	Civil Action No. 83-2421-3
SCHUBERT & SALZER MASCHINENFABRIK AKTIENGESELLSCHAFT, and SCHUBERT & SALZER MACHINE WORKS, INC.,	)	O R D E R
Defendants.	)	

On September 4, 1985, after a full trial, this Court entered a final Order in the above action enjoining defendants from making, using, or selling their adjudged infringing "Spincomat" automatic piecing device, or from otherwise infringing the plaintiff's patents in suit.

On September 27, 1985, all parties being heard, the Court further entered an

Order denying defendants' request to modify the injunction to permit them to demonstrate the infringing apparatus at the American Textile Exhibition-International scheduled to be held in Greenville, South Carolina, on October 17-25, 1985.

After due notice and at a hearing held in Columbia, South Carolina, before the undersigned on Friday, October 18, 1985, the attention of the Court was invited to the consideration of a Motion by the plaintiffs to the effect that the defendants are not complying with the foregoing Orders, and have assembled, erected, displayed, operated, and used at said Exhibition an automatic piecing device which, albeit modified to some degree, nevertheless infringes plaintiffs' patent rights.

Upon due consideration of the evidence, testimony, law and facts, the defendants are hereby ordered (1) to immediately

commence removal of the automatic piecing device from Textile Hall in Greenville, South Carolina, upon service o this Order, such removal to be completed no later than 6:00 p.m. on Wednesday, October 23, 1985, and (2) to further refrain from assembling, erecting, displaying, operating, using or otherwise exhibiting this automatic piecing device in any manner to customers, potential customers, or the public generally.

Copies of this Order shall be personally served on defendants or their agents at Textile Hall and on counsel for defendants, with personal service on any defendant or agent thereof, or counsel therefore being sufficient. Service may be made by the United States Marshall or his designee, or by counsel for plaintiffs or their designee, or by any other person authorized to make service.

IT IS SO ORDERED.

G. Ross Anderson, Jr.

United States District Judge

October 23rd, 1985

APPENDIX

ITEM 2.4

Trial Court Order entered

December 30, 1985

APPENDIX, ITEM 2.4
[Trial Court Order,
December 30, 1985]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
GREENVILLE DIVISION

SPINDELFABRIK SUESSEN -SCHURR, STAHLECKER & GRILL GmbH., HANS STAHLECKER, and FRITZ STAHLECKER,	)	
Plaintiffs,	)	
v.	)	Civil Action No. 83-2421-3
SCHUBERT & SALZER MASCHINENFABRIK AKTIENGESELLSCHAFT, and SCHUBERT & SALZER MACHINE WORKS, INC.,	)	
Defendants.	)	

ORDER

On October 16, 1985, plaintiffs filed in this Court an Emergency Motion for an Order directing defendants to immediately comply with injunctions previously issued herein which enjoin defendants from acts of infringement of the plaintiffs' patents in suit. In this emergency motion, plaintiffs averred that defendants had assembled and

were exhibiting and demonstrating at Textile Hall in Greenville, South Carolina, the adjudged infringing "Spincomat" automatic piecing unit. They further averred that, although this particular "Spincomat" had been modified by defendants in an alleged effort to avoid the claims of the patents in suit, such modifications did not accomplish this intended purpose, and that the modified "Spincomat" still clearly constituted an infringement at least of Claim 18 of Patent No. 4,059,946 in suit.

An evidentiary hearing on the motion was held before this Court sitting in Columbia, South Carolina, on October 18, 1985. In this proceeding, the court heard the testimony of three witnesses, considered the affidavit of a fourth witness, considered numerous documentary exhibits offered by the parties, viewed a videotape of the modified "Spincomat" in question as operated during an inter partes

demonstration, and heard argument of counsel.

The evidence developed in this proceeding showed that this modified "Spincomat" was essentially the same apparatus which had been adjudged to infringe claims of the two patents in suit (4,175,370 and 4,059,946), except that (1) in an attempt to avoid the literal language of the claims of the '370 patent certain modifications, which do not require discussion here, were made by defendants, and (2) in an attempt to avoid the literal language of Claim 18 of the '946 patent, certain electrical relays had been removed or disengaged, which relays controlled the advance piecing program of the "Spincomat" piecer. In the adjudged infringing "Spincomat" these relays had functioned to cause the sliver to be prefed for a short period of time prior to commencing the

initial piecing sequence.

These modifications were of such a nature that plaintiffs did not press for a ruling by the Court that claims of the '370 patent were still being infringed. However, plaintiffs did urge that Claim 18 of the '946 patent continued to be infringed notwithstanding the modifications. The rationale behind plaintiffs' position was that, even though the piecer had been reprogrammed so as to omit the sliver prefeed from the start of the piecing sequence, the piecer was nevertheless still programmed in such a way that in the event it was unsuccessful on the first try (without a sliver prefeed), the program would call for a repeat of the piecing sequence a second time, in timed relation to the first piecing attempt. Thus, as modified, the piecer would first attempt to piece up without renewing the fiber beard with a sliver prefeed. And, if

piecing was successful, the piecer would move on. However, if this first piecing attempt was unsuccessful (as was illustrated in a piecing sequence recorded on the videotape viewed by the Court), the piecer, in a precisely timed following sequence, tried again to piece. On this second try, the same sequence was followed again, except then, a new fiber beard had been formed by starting and stopping the sliver feed during the first, unsuccessful piecing attempt.

Thus, when comparing the language of claim 18 to the modified "Spincomat" when operating in the second piecing attempt mode, the apparatus included fiber supply preparing means for preparing the spinning assembly, etc., which preparing means included means for starting and operating the feeding means for a period of time and then stopping the feeding means. Further, since the second attempt at piecing always

followed the stopping of the sliver feed (in the first unsuccessful attempt) in a precisely defined sequence, uniform fiber cufts would be arranged at the sliver feeding means to accommodate the piecing to be subsequently performed in every situation where two attempts were necessary to accomplish piecing.

In view of the foregoing, and upon consideration of all of the other evidence, the Court found that the "Spincomat" in question, albeit modified to some degree, nevertheless corresponded to the language of Claim 18 of the '946 patent and therefore continued to infringe such claim. Accordingly, on October 23, 1985, the Court issued an Order to this effect enjoining defendants from further manufacture, sale or use of the so modified "Spincomat."

On November 14, 1985, defendants filed with the Court a Motion to Stay the

Implementation of the last-mentioned Order pending appeal. Upon due consideration of this motion, the Court remains of the view that the evidence presented at the October 18, 1985 evidentiary hearing establishes infringement by the modified "Spincomat" of Claim 18 of the '946 patent. Thus, defendants have not demonstrated that they are likely to succeed on the merits of an appeal from the Order, nor have they otherwise established that they are entitled to a stay of the Order. Accordingly, defendants' Motion to Stay the Implementation of the Court's Order of October 23, 1985 Pending Appeal is denied.

IT IS SO ORDERED.

G. Ross Anderson, Jr.

United States District Judge

Date: December 23, 1985

APPENDIX

ITEM 3

License Agreement, Schubert and Murata, '011 Patent

(A-2807 to 2809)

7/5/82
APPENDIX, ITEM 3
[License Agreement]

LICENSE AGREEMENT

Between MURATA MACHINER, LTD.
3, Minami-Ochiaicho, Kisshoin,
Minami-ku, Kyoto 601
Japan
(hereinafter shortly referred to
as "Murata")

and SCHUBERT & SALZER
Maschinenfabrik AG
Friedrich-Ebert-Str. 84
D-8070 Ingolstadt
F.R. Germany
(hereinafter shortly referred to
as "Licensee")

Witnesseth that,

WHEREAS, Murata is the holder and owner of patents and/or patent applications under the title of "Yarn Piecing Method for Open-End Spinning Machine" ("Anspinverfahren fur Offenendspinmaschinen") as defined herein (hereinafter collectively referred to as "Patents"), filed in Japan, Czechoslovakia, France, F.R. Germany, Great Britain, Italy, Switzerland and U.S.A.;

WHEREAS, Licensee is desirous of the utilization of the said "patent" for its Open End Spinning Machines.

NOW, THEREFORE, in consideration of the premises and covenants hereinafter recited and to be faithfully performed, it is mutually agreed and understood as follows:

1.

The term "Patents" as used herein mean Murata's patents and patent applications listed in the Exhibit A attached hereto.

2.

Murata hereby grants to Licensee a non exclusive, worldwide license under the Patents to make, use and sell the patented device only as part of the open end spinning machines of the Licensee. The license hereby granted is a limited license

and Murata reserved all rights not expressely granted.

The license herein granted is nondivisible, nontransferable, nonassignable, and without the right to grant sublicenses.

3.

For a lump sum to the license granted herein Licensee shall pay to MURATA an amount of Thirty-Three Thousand Deutsche Marks (DM 33,000.)* within 30 days from the effective date of this Agreement**

The lump sum payment shall be paid up and cash transferred by cable to the bank account designated by MURATA.

---

* of which DM 20,000.

** and the balance DM 13,000. after the German Patent 25 05 943 is granted.

Taxes to be imposed in Germany pursuant to the Agreement between Japan and Federal Republic of Germany for the Avoidance of Double Taxation with Respect to Taxes on Income and to Certain Other Taxes entered into force on June 6, 1967 and as amended thereafter, shall be borne by MURATA. Licensee shall deduct such income tax to pay in Germany in the name of and on behalf of MURATA. The relative certificate of such taxpayment shall be sent to MURATA by Licensee in due course of time after payment.

4.

The both parties to this Agreement agree that the validity of any of the Patents shall not affect this Agreement or the obligations of the parties.

5.

This Agreement shall continue in effect for the life of any of the Patents hereof from the date of execution hereof, which is the effective date of this Agreement.

6.

This Agreement is made under and shall be construed with reference to the laws of Japan.

This Agreement is made in English and one duplicate original is retained by each party hereto.

7.

Any dispute arising out of or in connection with this Agreement shall be finally decided by arbitration in accordance with the Rules of the Conciliation and Arbitration of the International Chamber of Commerce by three (3) arbitrators - with

one (1) arbitrator designated by each party hereto and the last arbitrator appointed by the two arbitrators - and each party hereto shall be bound by the arbitration. The arbitration shall take place in Duesseldorf or in Tokyo, whichever is not the country of the party instituting such proceedings.

The decision of the arbitration shall be final and may be enforced by any judicial tribunal having jurisdiction thereover.

8.

Any notices to be given hereunder shall be in writing and shall be valid and sufficient if dispatched by registered airmail, postage prepaid, in any post office in Japan and in Germany, as the case may be, addressed to respective addresses set forth at the outset of this Agreement or to those addresses to be designated by a

party in writing to the other party from time to time.

.....	Ingolstadt, den 23 July 1983 .....
(place and date)	(place and date)
for MURATA MACHINERY, LTD.	for SCHUBERT & SALZER MASCHINENFABRIK AG
By (signed) Janichi Murata, President	By (signed) (Dr. Jiechnaus) (signed) (Canzler)

APPENDIX

ITEM 4

Sales Agreement, Suessen and Murata,

'011 Patent

(A-2803 to 2806)

APPENDIX, ITEM 4
[Sales Agreement]

A G R E E M E N T

between

Murata Machinery Ltd.
3, Minamiochiaicho
Kisshoin, Minami-ku

Kyoto 601/Japan

(in the following called Murata)

and

Spindelfabrik Suessen
Schurr, Stahlecker & Grill GmbH
Dammstrasse 1

7334 Suessen/F.R. Germany

(in the following called Suessen)

In a meeting during the ITMA 1983 at Milan the principals of Murata and Suessen agreed that Murata wil sell the German patent DE-AS 25 05 943 and its foreign counterparts to Suessen.

The parties therefore agree as follows:

[Bates No. FS001282, p. 2803]

1.

Murata is the owner of the following patents and/or patent applications relating to a method for piecing-up a yarn

[Bates No. FS001283, p. 2804 follows]

Japan 1042951

Swiss patent 601 512

German patent application 25 05 943

French patent 75 04439

British patent 1 486 161

Italian patent 1 032 236

US-patent 4 022 011

1-2.

Suessen has been advised by Murata that a non-exclusive license of the patents and patent applications mentioned under 1. above had been granted by Murata to Messrs. Schubert & Salzer AG, Ingolstadt, F.R. Germany (hereinafter called the

Licensee). Suessen hereby agrees to purchase the patents and patent applications mentioned under 1. above together with the License Agreement as of 23th/28th July, 1982, with the said Licensee and agrees that you and your business/license concerns will maintain the licensed rights of the Licensee under the License Agreement as stipulated during the life of the patents and patent applications mentioned under 1. above. A duplicate copy of the License Agreement is attached hereto as Exhibit A, which forms a part of this Agreement.

2.

Under the terms, conditions and agreements set forth herein, Murata sells the patents and patent applications mentioned under 1. above to Suessen.

[Bates No. FS001284, p. 2805 follows]

3.

Murata will sign an assignment assigning the patents and patent applications mentioned under 1. above to Suessen before a notary public and also will cause this assignment to be legalized in Japan.

Murata will provide Suessen with the original of that signed and legalized assignment and 8 (eight) verified copies thereof.

In case any patent office requires additional documents for officially recording the change of ownership, Murata is willing to sign those documents on request of Suessen.

4.

Within 20 (twenty) days after receiving the asignments and its copies mentioned above under 3. Suessen will pay the sum of Yen

27,000,000 (twenty-seven million) to Murata.

5.

Parties will treat this agreement strictly confidential up to the date at which the change of ownership is recorded by the Japanese patent office. Provided, however, that Murata shall inform the Licensee of the assignment of the License Agreement due to the assignment of the patents and patent applications in a proper manner and form.
[Bates No. FS001285, p. 2806 follows]

6.

The foregoing agreement constitutes the entire agreement among the parties hereto with respect to the subject matter hereof.

7.

This agreement shall be governed and construed in accordance with the laws of the Federal Republic of Germany.

Kyoto, Feb. 17th, 1984 Kyodo 17284

J. Murata (signed) (signed)

(Murata Machiner, Ltd.) (Spindelfabrik Suessen Schurr, Stahlecker & Grill GmbH.)

APPENDIX

ITEM 5

Assignment, Murata to Suessen, '011 Patent

(A-2238)

APPENDIX, ITEM 5
[Assignment]

A S S I G N M E N T

We, Murata Machinery, Ltd., 3, Minami-Ochiaicho, Kisshoin, Minami-ku, Kyoto 601/Japan, do hereby declare that we assign our entire rights concerning the following patents and patent applications:

Japan 1,042,951
Swiss patent 601,512
German Patent Application 25 05 943
French Patent 75 04439
British Patent 1,486,161
Italian patent 1,032,236
U.S. Patent 4,022,011
Czechoslovakian Patent Application PV870-75

to Spindelfabrik Suessen - Schurr, Stahlecker & Gril, GmbH, Dammstrasse 1, 7334 Suessen/Germany;

[p. 2238]

We further declare that we agree if the patents and patent applications will be registered in the name of Spindelfabrik Suessen - Schurr, Stahlecker & Grill GmbH.

Kyoto, February 17, 1984

Murata Machinery, Ltd.

(signed)
Junichi Murata
President

[p. 2238]

APPENDIX

ITEM 6

Terminal Disclaimer, '946 Patent

(A-2842 to 2843)

APPENDIX, ITEM 6
(Terminal Disclaimer, '946 Patent)

FORM 14-5

IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

In re application of: Dieter Bottcher,
Heinz Schulz and Fritz Stahlecker

Serial No.: 637,050 Group No.:

Filed: December 2, 1975 Examiner:

For: METHOD AND APPARATUS FOR START-SPINNING A THREAD ON OPEN-END SPINNING UNIT

Patent: 4,059,946 Issued: November 29, 1977

Commissioner of Patent and Trademarks
Washington, D.C. 20231

TERMINAL DISCLAIMER
(37 CFR 1.32(a))

Interest of Person Making This Disclaimer

We,

(*type or print names of all inventors or assigns signing disclaimer*)

Fritz Stahlecker and Hans Stahlecker

represent that we are

(a)

/ / an inventor of this invention

/x/ assignees of this invention

/ / a representative authorized to sign on behalf of the assignee for this invention

(b) The extent of our interest is in

/x/ the whole of this invention

/ / a sectional interest in this invention as follows (here state the exact interest of disclaimant):

[Bates No. FS003845, p. 2842 on original]

Identity of Assignee and Title of Disclaimant (if applicable)

The assignees are

Name of assignees Fritz Stahlecker; Hans Stahlecker

Addresses of assignees Josef-Neidhart Str. 18, 7341 Bad Uberkingen, Federal Republic of Germany and Haldenstrasse 20, 7334 Suessen, Federal Republic of Germany, respectively.

Title of disclaimant --

authorized to sign on behalf of assignee

Recordal of Assignment in PTO (if applicable)

/x/ the assignment was recorded on December 2, 1975

Reel 3259

Frame 172

/ / authorization for recordal of the assignment is separately attached.

Disclaimer

We

/x/ hereby disclaim

/ / all that portion of the term of any patent to be issued on this application

or

/x/ the term of this patent subsequent to May 10, 1994

Fee Status
(37 CFR 1.20(d))

/x/ other than a small entity fee $50.00

/ / small entity fee $25.00

/ / verified statement attached

/ / verified statement already filed on

_____

Fee Payment

/x/ Attached is a check in the sum of $50.00

/ / Charge Deposit Account _____ the sum of $_____. A duplicate of this disclaimer

is attached.

Signature of disclaimant Fritz Stahlecker	Signature of disclaimant Hans Stahlecker
Reg. No. 19,232	SIGNATURE OF ATTORNEY Charles E. Park
Tel. No. (704) 377-1561	Type or print name of attorney Bell, Seltzer, Park & Gibson P.O. Address P.O. Drawer 34009 Charlotte, North Carolina 28234

(Terminal Disclaimer-page 2 of 2)

[Bates No. FS003846, page 2843 on original]

APPENDIX

ITEM 7

Terminal Disclaimer, '011 Patent

(A-2236 to 2237)

APPENDIX, ITEM 7
(Terminal Disclaimer, '011 Patent)

(A-2236 to 2237)

FORM 14-5

IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

In re application of: HIRONORI HIRAI

Serial No.: 548,728 Group No.: 246

Filed: February 10, 1975

Examiner: GORENSTEIN, C.

For: YARN PIECING METHOD FOR OPEN-END SPINNING MACHINE

Patent: 4,022,011 Issued: May 10, 1977

Commissioner of Patent and Trademarks
Washington, D.C. 20231

TERMINAL DISCLAIMER
(37 CFR 1.32(a))

Interest of Person Making This Disclaimer

I,

(*type or print names of all inventors or assigns signing disclaimer*)

Hans Stahlecker represent that I am

(a)

/ / an inventor of this invention

/ / assignees of this invention

/x/ a representative authorized to sign on behalf of the assignee for this invention

(b) The extent of our interest is in

/x/ the whole of this invention

/ / a sectional interest in this invention as follows (here state the exact interest of disclaimant):

[p. 2236 on original]

Identity of Assignee and Title of Disclaimant (if applicable)

The assignees are

Name of assignee Spindelfabrik Suessen-Schun, Stahlecker & Grill G.m.b.H.

Address of assignee Damstrasse 1, 7334 Suessen/Germany

Title of disclaimant Managing Director

authorized to sign on behalf of assignee

Recordal of Assignment in PTO (if applicable)

/ / the assignment was recorded on _____

Reel _____

Frame _____

/x/ authorization for recordal of the assignment is separately attached.

Disclaimer

I hereby disclaim:

/ / all that portion of the term of any patent to be issued on this application

or

/x/ the term of this patent subsequent to October 17, 1984

Fee Status
(37 CFR 1.20(d))

/x/ other than a small entity fee $50.00

/ / small entity fee $25.00

/ / verified statement attached

/ / verified statement already filed on

_____

Fee Payment

/x/ Attached is a check in the sum of $50.00

/ / Charge Deposit Account _____ the sum of $_____. A duplicate of this disclaimer is attached.

_____

Signature of
disclaimant

_____

Reg. No. 19,461

SIGNATURE OF ATTORNEY

Dale R. Small

Tel. No. (313)
962-4790

Type or print name of
attorney

Dale R. Small

P.O. Address

1520 Ford Building

Detroit, Michigan
48226

(Terminal Disclaimer-page 2 of 2)

[p. 2237 on original]

SERVICE

Three copies of this Appendix have been served upon counsel for plaintiffs - appellees below, respondents herein, first class mail postage prepaid, addressed as follows:

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Fletcher C. Mann, Sr., Esquire
LEATHERWOOD, WALER, TODD & MANN
Post Office Box 87
Greenville, South Carolina 29603

December 16, 1987

Allen Kirkpatrick III
Counsel of Record
for Petitioners
William T. Bullinger
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Suite 1100
Washington, D.C. 20036
Telephone: (202) 861-3000